

# The Mining Journal.

## RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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No. 2321.—VOL. L.

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[WITH SUPPLEMENT.] PRICE ..... SIXPENCE.  
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**R. JAMES H. CROFTS, STOCK AND SHARE BROKER,**  
AND MINING SHARE DEALER,  
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BUSINESS transacted in all descriptions of MINING Stocks and Shares (English and Foreign), Consols, Bonds (Foreign and Colonial), Railways, Insurance, Assurance, Telegraph, Tramway, Shipping, Canal, Gas, and Dock Shares, and all Miscellaneous Shares.

BUSINESS negotiated in Stocks and Shares not having a general market price. Every Friday a general and reliable List issued (a copy of which will be forwarded regularly on application), containing rising prices of the week.

MINES INSPECTED.  
BANKERS: CITY BANK, LONDON—SOUTH CORNWALL BANK, ST. AUUSTELL.

**SPECIAL DEALINGS in the following, or part:—**  
Almaden, 17s. 20 Glenroy.  
Bedford, 22s. 50 Gawn, 35s.  
Berlyn, 10 Grogwin, 23 15s.  
Bedford United, 24s. 10 Great Holway.  
Boddy, 10 Herodfoot, 24 1/2 c.p.d.  
Blue Hills, 24 11s. 3d. 50 Hingston Down, 32s.  
Barn Bros, 28s. 50 I.X.L., 7s.  
Blenheim, 50 Javali, 7s.  
Barnard Cop., 22s. 6 50 Killifreth.  
Clopapo, 21s. 15s. 20 Leadhills, 23 1/2.  
Barn, 22s. 9d. 50 Last Chance.  
Barn, 22s. 9d. 10 Mineral Corporation.  
Barn, 22s. 9d. 20 Mellanear, 26s.  
Barn, 22s. 9d. 50 Marke Valley, 23 1s. 3  
Barn, 22s. 9d. 50 Nouveau Monde, 32s.  
Barn, 22s. 9d. 50 N. Penstruthal, 23 1/2.  
Barn, 22s. 9d. 50 N. D'Ersey, 20s.  
Barn, 22s. 9d. 25 Pandora, 17s. 6d.  
Barn, 22s. 9d. 25 Port Nigel, 22 1s. 3d.  
Barn, 22s. 9d. 100 Port Phillip, 14s.  
Barn, 22s. 9d. 50 Prince of Wales, 17s.  
Barn, 22s. 9d. 15 Panulillo, 25 1/2.  
Barn, 22s. 9d. 100 Parys Copper, 31s.  
Barn, 22s. 9d. 10 Phoenix, 26 1/2.  
Barn, 22s. 9d. 50 Pestarens, 7s. 6d.  
Barn, 22s. 9d. 20 Ruby, 24 11s. 3d.  
Barn, 22s. 9d. 20 Richmond, 21 12s. 6d.  
Barn, 22s. 9d. 20 Rossa Grande, 28s.  
Barn, 22s. 9d. 10 Roman Gravel, 21 1/2.  
Barn, 22s. 9d. 10 Scottish Aust., 22 1 1/2  
Barn, 22s. 9d. 100 Ditto Ord., 21 1 1/2

**RAILWAYS—SPECIAL BUSINESS.**  
**FOREIGN BONDS—SPECIAL BUSINESS.**  
Fortnightly accounts opened on receipt of the usual cover.

**JAMES H. CROFTS, 1, FINCH LANE, LONDON.**  
ESTABLISHED 1842.

**R. W. H. BUMPUS, STOCK AND SHARE BROKER,**  
AND MINING SHARE DEALER,  
44, THREADNEEDLE STREET, LONDON, E.C.  
ESTABLISHED 1867.

BUSINESS transacted in STOCK EXCHANGE SECURITIES  
AND MISCELLANEOUS SHARES of every description.  
RAILWAYS, BANKS, FOREIGN AND COLONIAL BONDS.  
TRAMWAYS, TELEGRAPHS, and all the LEADING INVESTMENTS.  
Accounts opened for the Fortnightly Settlement  
A Stock and Share List free on application.

**MR. BUMPUS has SPECIAL BUSINESS in the undermentioned:—**  
Almaden, 17s. 20 Glenroy.  
Blue Hills, 24 1/2. 50 Roman Grav., 21s.  
Bedford, 22s. 50 Ruby, 24 1/2.  
Blue Tent, 22 1/2. 20 Richmond, 21 1/2 x d  
Colorado, 23 1/2. 50 So. Indian Gold, 22 1/2  
Carnarvon, 25s. 20 Santa Barbara, 22 13 1/2  
Consolidated, 15 Condurrow, 21 1/2  
Clopapo, 100 Killifreth. 25 South Darren, 23 1/2  
Derwent, 24 1/2. 10 Tankerville, 25s.  
Devon Consols, 13 1/2. 20 Wheal Sisters, 25 1/2  
Don Pedro, 26s. 6d. 100 Wheal Jewell.  
Dolcoath, 24 1/2. 40 New Wheal Peavor.  
East Crebor, 27s. 6d. 25 Polrose.  
Eberhard, 25s. 100 Pen-y-Osred.  
East Roman Gravel, 100 Parys Copper, 29s. 6d.  
East Lovell, 23 1/2. 30 Pateley Bridge, 17s.  
East Pool, 23 1/2. 20 Phoenix, 26 1/2.  
East Caradon, 25 1/2. 50 Prince of Wales, 17s. 6  
Frongoch, 50 Panulillo (Copper).

**IMPORTANT TO INVESTORS.**  
Large profits may be realised by the purchase of SHARES in SOUND well-ventured MINES at present prices. Many of these are likely to advance considerably in market value during the next few months.  
Mr. BUMPUS devotes special attention to these Securities, and is in a position to afford reliable information and advice to intending investors and others.  
The following Mines are particularly recommended:—  
TIN.—Wheal Peavor, Wheal Grenville, Carn Brea, West Peavor, Wheal Llaner, West Franches, Wheal Jane, Penhalls, Blue Hills, and New Wheal Peavor.  
COPPER.—Devon Consols, East Caradon, East Crebor, Hingston, Gunnislake (Llaner), Panulillo, West Seton, Parys Corporation, Wheal Jewell, Cunniff, LEAD.—Derwent, Port Nigel, South Darren, West Asheton, East Roman Gravel, Pateley Bridge, Bodidra, and Pen-y-Osred.  
DON PEDRO Shares should be bought AT ONCE for a great rise.  
SPECIAL BUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.

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**NEW WHEAL PEEVOR.**—MR. W. H. BUMPUS requests EARLY application for these shares. Only a limited number are for sale, and they should be secured immediately at the present low price, viz., 22 1/2 to 23 1/2.  
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ALL BUSINESS TRANSACTED FREE OF ANY CHARGE FOR COMMISSION.

**Notice to Investors and Speculators.**  
Mr. Budge has SPECIAL DEALINGS in—  
35 Gawn, 150 South Indian Gold.  
35 Gawn, 80 South Penstruthal.  
35 Gawn, 60 South Crebor.  
35 Gawn, 20 Tamar Silver-Lead.  
35 Gawn, 20 Wheal Sisters.  
35 Gawn, 50 West Killy.  
35 Gawn, 100 West Killy.  
35 Gawn, 60 Prince of Wales.  
35 Gawn, 35 South Crofty.  
35 Gawn, 146 Pestarens.  
35 Gawn, 100 Parys Copper.  
35 Gawn, 50 Phoenix.  
35 Gawn, 55 Ystwyth.

**BUYERS or SELLERS of any of the above, or holders of any Stocks or Shares** readily marketable, will do well to apply to Mr. Budge.  
**SPECIAL BUSINESS in Frongoch Shares as Buyer or Seller.**

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Prices of STOCKS and SHARES in RAILWAYS, BANKS, ENGLISH and FOREIGN GOVERNMENT SECURITIES, GAS, MINES, INSURANCE, and other Stock Exchange Securities, and various important information forwarded on application to—

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BRITISH AND FOREIGN MONTHLY MINING NEWS  
—STOCK AND SHARE INVESTMENT NOTES—MINES,  
MINERALS, AND METAL MARKETS—SHARE LIST,  
No. 814, Vol. XV., for JANUARY month, is now ready, and will be sent to customers on application.

Annual Subscription..... 5s. | Single Copy..... 6d.

**Messrs. PETER WATSON AND CO.,**  
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BARTHOLOMEW LANE,  
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Business transacted at net prices in all kinds of Stocks and Shares. Information concerning various securities obtainable from all parts of the United Kingdom. Special Correspondents can be retained from all mining districts. Mines inspected and reported upon at most moderate charges. Information obtained concerning such shares as are not dealt in on the Mining Market.

ESTABLISHED 20 YEARS.—BANKERS: LONDON AND SOUTH-WESTERN.

**JOHN B. REYNOLDS, STOCK AND SHARE DEALER,**  
37, WALBROOK, LONDON, E.C.

ESTABLISHED 20 YEARS.—BANKERS: LONDON AND SOUTH-WESTERN.

**WEST KITTY. | WHEAL PEEVOR. | WEST PEEVOR.**  
WEST KITTY shares, when first strongly recommended by me about two months since, were at 20s. per share; they have since advanced to 23 1/2 buyers. A slight reaction in sympathy with the Tin Market has taken place in this as in all other leading mines, but the reaction is natural and temporary. The opportunity should only be seized by Buyers to secure Shares. I believe that firm holders will in due time be in the receipt of good dividends, and that the shares will stand at £10 each. Orders to buy have been difficult to execute, and many have been sent back. Every new purchase makes the shares more difficult to get. NEW KITTY will also certainly advance. There is information already known in certain quarters which will secure that result.

I recommended WHEAL PEEVOR at 25s, they are now at 23s. A month since I recommended WEST PEEVOR at 25s, they are now at 21 1/2, and I recommend WEST KITTY and NEW KITTY with equal confidence.

**JOHN B. REYNOLDS, 37, WALBROOK, LONDON, E.C.,** gave as the result of his investigations strong recommendations for the purchase of the following SHARES, and the advance in each instance is correctly marked underneath since such recommendation was made. He predicts for WEST KITTY and other Mines an equal advantage to buyers:—

Recommended at—per share.	Present price.
Dolcoath..... 23s. 6d.	25s. 6d.
South Condurow..... 10s. 6d.	12s. 6d.
Tincroft..... 5s. 6d.	6s. 6d.
Mellanear..... 3s. 6d.	4s. 6d.
Wheal Peavor..... 5s. 6d.	6s. 6d.

Mr. REYNOLDS urges his numerous correspondents to telegraph their instructions with regard to any shares, and recommends them to BUY and SELL only for cash, especially in the leading mines, where fluctuations are so considerable. Mr. REYNOLDS attends personally to every branch of his business.

**MR. W. TREGELLAS, 19, BISHOPSGATE STREET**  
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Deals in all descriptions of MINING SHARES at close market prices, and is always in a position to do business in SANTA BARBARA, PITANGUI, and COPIAPO MINES.

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Can SELL the following SHARES at prices annexed:—

40 Almaden, 17s. 6d.	20 Gawn, 17s. 6d.	20 Pandora, 20s.
25 Birdseye Creek, 21 1/2.	10 Glenroy, 25s.	50 Prince of Wales, 17s. 6
40 Bedford Unit., 21 3s. 9	20 Hingston, 21 10s.	20 Roman Grav., 21s.
50 Chontales, 3s.	20 Lead Era.	100 Rossa Grande, 6s.
20 Colorado, 22 16s. 3d.	20 Leadhills, 23 17s. 6d.	20 Ruby Silver, 24 13. 9d
30 Cambrian, 21 18s. 9d.	20 Marke Valley, 23s.	30 So. D'Ersey, 30s.
50 Carnarvon, 25s.	5 Minera, 21 17s. 6d.	50 Tamar Sil.-Lead, 21 1/2
50 Don Pedro, 21 3s. 9d.	30 Morfa Du, 22s. 6d.	50 Tecoma, 6s. 3d.
20 East Caradon, 25 2s. 6	20 New Kitty.	25 Van & Glyn United,
25 East Crebor, 21 6s. 3d	30 Nou. Monde, 21 13s. 9d	10s. 9d.
10 East Van, 22 17s. 6d.	10 Pateley Bridge, 16s. 9d	20 West Kitty, 23 1/2.
10 Eberhard, 25s.	20 Panulillo, 25 17s. 6d.	25 Wheal Jewell, 24 1s.
20 Flagstaff, 24s.	40 Parys Copper, 21 10s	20 Yorke Peninsula pref.
20 Frontino, 23 1/2.	100 Pestarens, 8s.	30s.
	50 Port Phillip, 13s. 9d.	

**WHEAL UNITED MINES—SPECIAL BUSINESS in these shares.**  
**SOUTH WHEAL CREBOR (Limited), 21 fully paid, strongly recommended at 2s.**

**MR. CHARLES THOMAS,**  
MINING AGENT, STOCK AND SHARE DEALER,  
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**MR. ALFRED THOMAS,**  
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Has FOR SALE in a SILVER-LEAD MINE 1500 Shares, at 10s. per share, that in six months cannot fail to command £1 10s. to £2 per share. One of the best investments of the day. Will be sold in One Lot, or in Lots of not less than 100 Shares. Further information given, and inspection solicited.

**MR. EDWARD ASHMEAD, 62, CORNHILL, LONDON,**  
LONDON MINE AGENT, ACCOUNTANT, AND AUDITOR.

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SAFE DIVIDEND INVESTMENTS PAYING 4 TO 6 AND 10 PER CENT.  
PER ANNUM ON PRESENT OUTLAY.

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It is a Reliable "Guide," giving valuable information and Sound Advice, &c. It gives Market prices; Dividends upon outlay, when payable; Reports, &c., &c. IT CONTAINS ALL THE SAFE INVESTMENTS IN THE FOLLOWING:—  
English, Foreign Railways. Insurance, Gas, Waterworks.  
Preference, Debenture Stocks. Colonial, Foreign Stocks.  
Indian, American Stocks. British, Foreign, Colonial Mines.  
Bank, Financial Shares. Tea, Land Shares.  
Tramway, Telegraph Shares. Shipping, Dock Shares.  
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**HENRY GOULD SHARP, STOCK AND SHARE BROKER,**  
42, POULTRY, LONDON, E.C.—ESTABLISHED 1852.  
BANKERS: LONDON AND WESTMINSTER, Lothbury, London, E.C.

**NOTICE TO SHAREHOLDERS.**

**SHARES WANTED IN THE FOLLOWING:—**  
100 to 500 WHEAL JANE.  
100 to 200 DERWENT.  
100 to 200 MONA.  
100 to 500 SOUTH DARREN.  
100 to 1000 WHEAL JEWELL.  
100 to 300 HERODSFOT.

**HENRY GOULD SHARP, STOCK AND SHARE BROKER,**  
42, POULTRY, LONDON, E.C.—ESTABLISHED 1852.  
BANKERS: LONDON AND WESTMINSTER, Lothbury, London, E.C.

**FERDINAND R. KIRK, 5, BIRCHIN LANE,**  
LONDON, E.C.  
FORTNIGHTLY ACCOUNTS opened, on receipt of the usual "cover," in Railways Home and Foreign, Mining Shares, Foreign Bonds, and certain Miscellaneous Securities.

"THE WEEK."—A SEPARATE EDITION from that which appears in the Mining Journal is published every Wednesday evening, containing "Notes and Hints on the Stock Markets," with Closing Prices. May be had on application. BANKERS: LONDON AND WESTMINSTER, Lothbury.

**Messrs. E. KINS AND CO.,**  
STOCK AND SHARE DEALERS,  
14, QUEEN VICTORIA STREET, LONDON, E.C.  
BANKERS: ROYAL EXCHANGE.  
SPECIAL DEALINGS for cash, exchange, or account.

**MR. J. J. REYNOLDS, STOCK AND SHARE DEALER**  
6, MOORGATE STREET, LONDON, E.C., will SELL—

20 Bedford United, 25s.	20 Hingston Down, 25	20 Port Nigel, 22 1/2.
5 Devon Consols, 21s.	21 8s. 9d.	5 Roman Gravel, 21s.
20 Denbighshire Con- solidated.	20 Leadhills, 24s.	20 So. Penstruthal, 19s. 6
1 Dolcoath, 27s.	10 Mellanear, 26 7s. 6d.	25 Tamar Silver-Lead, 21 12s. 6d.
10 East Crebor.	10 Marke Valley, 23s.	25 Wheal Jewell, 22s. 6d.
5 East Lovell, 23s.	20 North Penstruthal, 23 10s.	5 Wheal Peavor, 23s.
10 Herodfoot, 24 1/2.	25 Prince of Wales, 20s.	10 West Peavor, 210 1/2.

Special Business in Wheal Kitty, West Kitty, and New Kitty.

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Business transacted at net prices in every description of Stocks and Shares.

**SPECIAL DEALINGS in the undermentioned:—**  
100 Almaden & Tinto. 100 Eberhard & Aurora. 250 Rossa Grande.  
50 Bedford United. 25 East Caradon. 60 South Darren.  
100 Consolidated. 60 Frontino. 60 So. India Gold.  
100 Colorado. 40 Hingston Down. 10 Tankerville.  
100 Don Pedro. 10 Mellanear. 100 Victoria (London).  
40 Derwent. 75 Prince of Wales. 30 Wheal Kitty.  
20 Devon Great Consols. 155 Pestarens.

**Messrs. ENDEAN AND CO., STOCK AND SHARE**  
DEALERS, 85, GRACECHURCH STREET, LONDON, E.C.  
ESTABLISHED 1861.

BANKERS: LONDON AND WESTMINSTER, Lothbury; and  
BARCLAY, BEVAN, and CO., Lombard Street, E.C.  
Messrs. ENDEAN and Co. strongly advise the purchase of well selected Lead Mines at present low prices.—Van, Great Laxey, Roman Gravel, Llanrwst, and Tamar, also South Wheal Crebor (Copper). The next great rise will be in Lead Shares, and many of those now offering will be eagerly sought after at considerably higher prices immediately there is a run upon them.  
Messrs. ENDEAN and Co. are prepared to deal in all the shares they recommend at close prices.

**BEAZLEY AND CO., MINING SHARE DEALERS,**  
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RECOMMEND THE PURCHASE OF SHARES in the  
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The BEST and CHEAPEST INVESTMENT now before the Public at the (par) price—£1 per share fully paid up. No further liability.  
The Mine is improving. See reports in this day's Journal.  
We advised the purchase of Herodfoot, West Peavor, Pandora, Parys, Uny, Bedford, East Caradon, Basset, Marke Valley, Hingston, and East Lovell with most satisfactory results to our clients. We have two or three mines we can now confidently recommend. Price and particulars on application.

**SHARES BOUGHT and SOLD at NET PRICES for CASH or ACCOUNT.**

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**MR. JOHN L. M. FRASER,**  
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CONSULTING MINING ENGINEER, &c.,  
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**ECONOMY in MINING.**  
Mines managed and Secretaries from £150 per annum. Inspections from £3 3s., and expenses.  
All descriptions of MINING PLANT and STORES at the lowest possible prices. Enquiries courted.  
Specially recommends for investment and rise in price—British Silver-Lead, Pant-y-Mwyn, Plas Ddu, Westminster United.



## Lectures on Practical Mining in Germany.

CLAUSTHAL MINING SCHOOL NOTES\*—No. CXLIV.

(Continued).

BY J. CLARK JEFFERSON, A.R.S.M., WH. SC.,

Mining Engineer, Wakefield.

(Formerly Student at the Royal Bergakademie, Clausthal.)

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The so-called Etagenbruchbau is used in very wide and highly inclined lodes and deposits, where on account of the weak character of the mass forming the deposit the before described methods of Stockwerksbau and excavation working are inapplicable. It may be described as pillar and stall working applied to separate stories or stages, formed at more or less regular distances apart above each other in the deposit. One of the best known examples of this mode of working is that of the Stalberg, near Siegen. This deposit, which averages 24 yards in thickness, and is surrounded by grauwacke slate, strikes north-west and south-east. It consists for the greater part of spathic iron ore. The deposit is reached by an adit, above which ten stages are formed. The floors of the stages being 11 yard above each other. Each stage is opened out by driving levels 5½ yards in width by 5½ yards in height, parallel to the general strike of the deposit, leaving between them pillars of various thicknesses. The number of levels and pillars in any stage, or part of a stage, depends on the width of the deposit at that place. The two outside levels are made to follow the boundary of the deposit. The levels are driven to a throw on the west side of the adit. When they have reached the throw this working back of the pillars and roof is commenced. As the floor of the stories are made 11 yards apart, and the levels are driven 5½ yards in height, a thickness of 5½ yards is left above each level, forming the roof. The deposit contains cleavage planes, or fissures, running approximately at right angles to the strike. The face of the working, when bringing back the pillars and roof, is made to coincide with these planes. At a distance of 6 ft. back from the face of the working a dry wall of attle is built, behind which the rock as it is won by blasting falls. After each blasting operation the iron ore is picked out from the rest of the material, which is heaped up behind the wall. As this heap increases in height the wall is built up in advance, and this is continued till the roof has been so weakened that it, and the debris resting upon it, breaks down upon the wall and debris heaped behind the latter. The iron ore is picked out as well as possible from the fallen mass. When the roof is broken down a second wall is commenced, 6 ft. back from the new working face. The pillar is got at the same time as the roof, being gradually thinned by working on the sides and across the end. As yet only one or two levels have been driven below the adit, at a distance of about 15 fathoms below each other and the adit, and the workings in this portion of the deposit have yet to be commenced.

## SPECIAL METHODS OF WORKING.

1. **TUMMEL WORKINGS.**—This method may be briefly described as the method of working thick stratified deposits by means of circular excavations with arched roofs, the excavations or chambers being started with more or less regularity from levels driven in the deposit. This method was formerly very common in working the brown coal deposits of the Rhine district. The deposit varies very considerably in thickness, from 12 to 70 ft. The superposed strata are of a similar thickness, varying from 10 to 70 ft. The superposed strata and the greater part of the brown coal deposit are comparatively free from water; the floor of the deposit, however, generally lies a few feet below the water level, so that the whole thickness of the deposit is not always got; generally from 20 to 30 ft. The deposit is reached by two shafts, except where a day hole or adit is possible, when only one shaft is provided in addition to the adit. The size and depth of the shaft depend on the thickness of the deposit and the superposed strata. The area worked from a pair of shafts seldom exceeds 50 yards square. From the shaft the deposit is opened out by a main level, from which the working levels are driven about 7 yards apart. The size of the levels varies according to the more or less compact nature of the ground—3 to 4 ft. in width, and 6 to 8 ft. in height. The roofs of the larger levels are arched; the smaller levels driven in loose ground, are generally timbered. When the levels have reached the intended boundary the excavation of the chambers nearest the boundary is commenced by taking down the roof, and excavating on both sides of the level in a circular form, so that the resulting chamber is about 7 yards in diameter, the height about 8 yards. When the chamber has been excavated to this height the roof of the deposit is reached, and the less compact superposed strata fall in. A second chamber is then started in the level, 8 yds. nearer the main level, so that a pillar (in its thinnest portion 3 ft. thick) remains between the two chambers, when the second has been excavated to the full width of 7 yards. In this manner from 40 to 60 per cent. of the area of one field is worked out in the chamber 7 yards wide and 8 yards in height, placed 8 yards centre to centre. The falling in of the superposed strata as the roof of the chamber is thinned puts a stop to the further working in the chamber. To preserve the shaft from the effects of the subsidence of the strata a safety pillar, at least 9 yards in diameter, is left round the shaft.

2. **PATCHING.**—This method of working forms as it were a transition between surface and underground workings. In some respects it resembles the preceding tunnel working, and also the next to be described—Bell pit workings. It may be said to consist in removing the overburden in the most favourable places, and excavating the deposit as much as possible from the area exposed. An example of the methodical carrying out of this plan is furnished by brown coal workings in the Bonn district. The average thickness of the overburden is about 12 ft. This was formerly sunk through by means of a shaft from 12 to 15 ft. square. The shaft was carried down in the deposit with an enlarging section, so as to obtain as much mineral as possible. In consequence of the risk from portions of the overburden falling into the excavation, a regulation was issued, requiring that the sides of the shaft (or opening) through the overburden should not be vertical, but inclined at an angle of 45°, and besides that a width of at least 3 ft. should be left between the bottom of the opening, or rather the foot of the inclined sides of the opening in the overburden and the edge of the shaft carried down in the deposit. Hence when the section of the shaft in the upper part of the deposit is 16 ft. square the size of the opening made by the removal of the overburden will be 22 ft. square at the bottom and 46 ft. square at the surface, supposing the overburden to be 12 ft. in thickness. Between two excavations a pillar 3 to 6 ft. in thickness (according to the stronger or weaker character of the deposit) is left. Since the excavation is carried on with great rapidity, only the slightest forms of timbering are required. The opening in the deposit is first enlarged when the shaft has reached the floor of the deposit, and the enlargement proceeds in an upward direction. When the enlargement of the excavation to the full size is completed in the lowest 6 ft. a portion of the overburden from the next "kuhlen," as it is called, is thrown into the excavation. By so doing the enlargement of the upper part of the kuhlen can readily be effected without the use of scaffolding or ladders, and the pillars can be made much thinner than if the excavations were left empty. By working the kuhlen in succession the overburden raised from one patch can be almost filled into the next kuhlen. This method of "patching" is also followed in obtaining the iron ores in South Wales. The thinnest portions of the overburden are selected for removal to expose the ironstone band below, which is then quarried out.

3. **BELL PIT WORKINGS.**—This method of working is only applicable where the deposit does not lie very deep below the surface of the ground, and consists of the winning of the mineral by means of shafts alone, which are widened out in the deposit in a bell shape, and it may be considered as a modification of tunnel workings, where, on the one hand, the thickness of the superposed strata is so small that it is more economical to sink a special shaft for each excavation than to drive and keep open an arrangements of levels, and where,

on the other hand, the thickness of overburden is too great to allow of the removal of the overburden. It is used where the deposit occurs in such an irregular manner that a methodical arrangement of working would be too expensive, since the levels, &c., would have to be kept open in unremunerative ground. It combines at once the exploration and working out of the deposit. If the shaft when sunk to the deposit is found to be in such a position that the deposit in the neighbourhood is too thin or poor to be profitably worked the shaft is filled up, and a fresh shaft sunk a short distance off. This method of working is practised in winning the clay ironstone in Upper Silesia, in the Leeds and Nottingham coal field, galena in Spain, and was formerly in use in the salt mines in Transylvania. A considerable percentage is lost in pillars left between the pits. In farming land, when either of these last two methods of working are employed, the surface soil should be carefully stripped and afterwards replaced.

Before concluding the list of special methods of working we have to consider the working of a variety of deposits which occur with extreme irregularity, and which are called in German "Putzen." These are deposits which seem to fill up hollows in the unconformable and irregular surface of many limestone rocks, and which have been afterwards covered up by superposed strata. The usual method of working these deposits is to sink a shaft through the superposed strata and the deposit until the rock on which the deposit rests is reached. From the shaft levels are driven at different heights and in different directions in the deposit, to explore its size and form, according to which the deposit is worked out upwards either in a pillar arrangement or by some method of overtopping. The working away commences at the boundary and proceeds towards the shaft, around which a safety pillar must be left. Sometimes a small string of the deposit, where it seems to thin out, if followed leads to the discovery of a second large mass of ore, which may be worked out from the same or a second shaft sunk purposely, as is found most advisable.

## SOUTH STAFFORDSHIRE AND EAST WORCESTERSHIRE INSTITUTE OF MINING ENGINEERS.

## ANNUAL MEETING.

(Continuation from last week's Journal.)

Mr. A. H. W. RADCLIFFE then read the following paper:—

Some two years ago I had the pleasure of exhibiting and reading a paper descriptive of Prof. Graham Bell's telephone. That instrument has now familiarised itself with almost everyone; as a telephone it remains where it was, no improvement whatever having been made upon it, but another more recent discovery, the microphone, has been pressed into the service, and by using this as a transmitter considerable increase in the loudness of the sound has been achieved, but the person who is holding the receiver or telephone to his ear is the only one who can hear what is being spoken at the other end.

The instrument I have to-day the pleasure of exhibiting, Edison's loud speaking telephone, differs in every respect from the Bell telephone. The scientific principles upon which the invention operates are entirely original with Mr. Edison. They are two-fold, in that a different one is employed in the transmitter from that in use in the receiver. The transmitter operates upon the principle of varying the strength of a voltaic current by the varying pressure of the sound waves upon a piece of carbon, constituting a portion of the circuit.

The receiver, that is the apparatus for converting the electric wave into sound, is based upon the principle of converting by means of the electric current a constant friction into a variable one. The *modus operandi*, which is exceedingly simple, may be thus described:—A tympanum or diaphragm of mica is held in position on the face of a vulcanite case, about four inches in diameter, being clamped firmly at its edges. Attached to the centre of this tympanum and within the case is a piece of metal, about two inches long, standing at right angles to the tympanum; the free end of this metal piece rests upon a small cylinder of chemically prepared chalk, and is made to bear upon it with considerable pressure by means of an indiarubber buffer placed immediately above. The chalk cylinder is rotated by means of a small crank which projects outside the case; when the cylinder is rotated the friction between it and the end of the metal bar is sufficient to force the tympanum, to which the bar is attached, out of its true plane, or in other words, to put it under tension somewhat analogous to a musical string. The electric waves set free from the battery at the transmitting end by the action of the voice upon the carbon, and which, therefore, accurately represent the sound waves in their varying intensity, are made to pass through the metal bar and chalk cylinder, and effect in their passage at the point of friction a variation of the friction in the exact ratio of their intensity. It will thus be seen that the tympanum is thus endeavouring to retain its normal position, and succeeds in doing so only in proportion to the degree of neutralisation of the friction effected by the electric wave. That is to say, it is made to vibrate in harmony with the voice at the transmitting station, and consequently to contribute to the air at the receiving station precisely that form of motion given to that at the transmitting station, necessarily producing the same sound.

The active principle is the utilisation of the power of the hand at the receiving station to reinforce the electric current, thus permitting a much more decided vibration of the tympanum than is possible in other telephones, since in them the electric current is compelled alone to perform the physical work of vibrating the tympanum. The practical result of this device is the reproduction of the human voice at the distant station in something like its original compass, thus obviating the necessity for raising an instrument close to the ear.

This brief outline will, I hope, afford you some general idea of the construction and action of the Edison loud-speaking telephone, and perhaps a few minutes' exhibition of its working in actual practice will be more interesting than a volume of descriptive reading.

After the meeting should any gentleman wish to have any portion of the instrument explained to him I shall have much pleasure in doing so.

Mr. RADCLIFFE gave some interesting experiments with the Edison loud-speaking telephone, he having communication with his assistants at the Dudley Arms Hotel. At the hotel they gave various songs, and also played several airs on a cornet, which were heard very distinctly in the Mining Museum by the large company. The experiments caused much amusement.

Mr. THOMAS PARTON, F.G.S., of West Bromwich, then read the following paper on "Mining," and also showed specimens of Dalmain's "Captive Day-Light":—

Whenever an accident occurs resulting in serious loss of life, in any of the departments of mining, especially those under the head of explosions, the whole country is for a time alarmed, and takes upon itself the task of "judge and jury." Strong condemnation and absurd conclusions are indulged in (with good intent, no doubt, and equally absurd proposals are broached for preventing future calamities, an analysis of the bulk of them clearly proving that the writers are, to a great extent, ignorant of the science of mining, and the means in use for the prevention of accidents. The following sentence is culled from a leading article in a local paper on the late lamentable accident in North Staffordshire. It says:—"Let the direct cause be what it may, the dire uncertainty of mining occupation is a reproach to the crude knowledge possessed on the subject even by the greatest professors." Such a sweeping condemnation of the comparative ignorance of the mining profession at once excites reflection, and stimulates the enquiry, what has been done in this scientific age to lessen the dangers of a certainly dangerous industry? Are we still, as it were, living in the "dark ages," as far as mining is concerned? Are we merely groping our way, and only learning lessons from bitter experience? Has our vaunted skill only yet attained to a "crude knowledge?" Considering the amount of mineral raised, and the number of men employed, is the loss of life in such immense disproportion, as compared with other industries?

If then we consider these questions. It is our individual duty, no less than our collective one, as an honest and devoted attention to this phase of the profession. If we call to mind the state of mining as it was a generation ago, and there are records of this in abundance, besides the evidence of old mining veterans now living, we shall find that in every department of mining there has been a wonderful progress. Instead of rude, imperfect machinery, we have the finest engineering mechanism that skill can produce. Instead of the old fashioned method of working the coals without particular order or arrangement we have well-defined systems, and notable improvements upon old methods. Instead of trusting to the "rule of thumb" and "hap-hazard" way of inspecting mines as to the existence of gas we have a code of rules to guide, and an invaluable instrument in the safety-lamp.

Instead of the risk of open shafts, and the many dangers in connection therewith, we have guides of wood and iron, enabling us to speed through the darkness with a velocity of 30 to 40 miles per hour, with as much safety as the ordinary train, on our best managed systems. And, in addition to this, the aid of the meteorologist is invoked to warn us of the effects that changes in the atmospheric pressure may have on the safety of the mine, and every mine where gas has been seen duly records the rise and fall of the barometer, and the variations of temperature. Chemical science is part of the education of the mining engineer, so far as relates to the constitution of the various gases met with. In fact, every manager who now complies with the requirements of the Mines Regulation Act, and is duly qualified, is wiser than philosophers of old, and all the knowledge he possesses up to a certain fixed standard is made to bear upon the safety operations of mining. Just as a captain and his mates are duly qualified for taking proper charge of a vessel over the wide oceans, so are managers equally so.

If then we be the case, why so many lives lost year by year, and why the repetition of similar accidents? Is it possible to prevent still further this great loss of life, or have we arrived at a state of perfection; and in this yearly loss, the result pure and simple of human frailty, which no amount of skill and care can change? It appears from the summaries of the statistical portions of the reports of her Majesty's Inspector of Mines for the year 1876, that the total number of persons employed above and below ground in and about the mines of Great Britain and Ireland was 475,329, of which 382,979 were employed underground. The produce for the same year was—

Coal	132,612,063
Fire-clay	1,825,586
Ironstone	19,747,227
Shales	813,282 = 154,798,128

Total number of accidents resulting in deaths, 1413, one death to every 336 employed, 103,177 tons for each death by accident. Now, compare these figures with the statistics for the year 1856, and what does it show? In 1856, the estimate of coal and other minerals was 68,446,700 tons against 154,798,128 in 1876. In 1856, the number of deaths was 1029, against 1413 in 1876. So that in 1856 the number

of tons raised for each death was 68,906 tons, while in 1876 it was 103,177 tons. We will now refer to our own immediate district, under the inspection of J. F. Baker, Esq. Accompanying his report for the year 1876, Mr. Baker gives the clearest analysis of the number of fatal accidents in South Staffordshire and East Worcestershire from 1850 to 1875, inclusive, the writer of these notes has glanced can be seen the fluctuation in the number of accidents during the above period. Without enumerating each particular year, it will suffice for the purposes of this paper to state that in the year 1851 the number of deaths is recorded as 189. In the year 1876, 50, which equals a reduction of about 27 per cent., which must be admitted to be highly creditable to this inspection district. As the output for 1851 is not before us, we will take the year 1854, when we have recorded an output of about 5,500,000 tons for South Staffordshire and Worcestershire. Number of deaths, 175, which gives one death for every 31,428 tons. Output of coal, ironstone, and freestone, &c., for 1876, 9,344,939 tons. Deaths, 50, which gives one death for every 186,998 tons.

One cannot but think that, considering the enormous increase of output, and the increased difficulties and dangers in the mines, having to be won from greater depths and more extensive workings, these statistics give the lie to the statement that "the dire uncertainty of mining occupation is a reproach to the crude knowledge possessed on the subject even by the greatest professors." Supposing that with the increased output during the last 30 years, represented in round numbers by 68 millions, v. 154 millions, there had not been a corresponding progress as relates to safety operations, what would be the present state of the yearly calendar of accidents? Still, we must not pride ourselves upon having attained to the minimum of accidents which mining is heir to. It comes within the daily experience of all engaged in the profession that the proportion of deaths can by care and skill be still further reduced. It will be instructive to again refer to the tabulated analysis, under which the various accidents are described, in order to determine what departments of mining are most fatal. These are classified under the following heads:—

Taking first the United Kingdom, 1876.	South Staffordshire and East Worcestershire.
Explosions of fire-damp.....	Explosions of fire-damp.....
Falls in mine.....	Falls in mine.....
Total in shafts.....	Total in shafts.....
Miscellaneous.....	Miscellaneous.....
Surface.....	Surface.....

Total number of persons killed 1413 Total number of persons killed... 50

Taking the United Kingdom, it would appear that the two main sources of fatal accidents are attributed to explosions and falls, but it must be remembered that the year 1876 was somewhat exceptional as regards explosions, as West Lancashire and North Wales and parts of South Wales are accountable for 472 deaths out of the 586 under the head of explosions. Taking Mr. Baker's district we have to notice the heavy proportion under the head of falls in mines. Having these reliable figures before us, we can, without difficulty, judge what part the mining economy requires our special attention. Undoubtedly explosions of gas and falls of roof are the two direst enemies of mining. With regard to the former, much has been done by science to render the most frequent and harmless. The wonderful little instrument in the shape of the safety-lamp was at one time believed to be the "open sesame" to our known dangerous seas, and there can be no question that, but for its aid, the figures under the head of explosions would be far higher proportionately than they now are. In fact, for its use some of the most valuable and extensive of our coal seams would be entirely locked up. Yet it is also a fact that our heaviest liability bill comes from those districts where this instrument is in use, and where every care and skill are brought to bear on its proper use in conjunction with the most perfect ventilation. To account for such lamentable catastrophes as so frequently occur, there must be something radically defective. What is it? As the writer has before stated in a paper read in 1877, there are two causes which to some extent account for them.—1. A want of greater care and due regard for their own safety on the part of the miners themselves.—2. The peculiar systems of working the fiery mines in various parts of the country.

With regard to the latter, Mr. Warrington Smyth says:—"Speaking of the comparative merits of the 'long wall' and 'post and stall' systems of working. But the roof here (speaking of the 'post and stall') does not settle in the same uninterrupted manner as in a regular long wall work; and the establishment of a number of separate goafs in proximity to, and generally below, the places where the colliers are working, renders outbursts of gas extremely dangerous, and has led to the fearful explosions of the Ardley Oaks, Darley Main, Warmley Vale, and Lundhill Collieries.

In reference to the former cause, we are sorry to relate that there are many instances, and one of recent occurrence in Scotland, where lamps, when found to have been tampered with, and pipes and matches found, which pointed unmistakably to the recklessness of the miners themselves while in the mine of known danger. If the miners themselves will not assist the Inspector, manager, deputies, and owners, by cultivating strict care and discipline in the discharge of their individual duties, it is hopeless to look for that immunity from accidents which we all so much desire.

There appears to be some gleam of hope that some other light than that dependent upon flame produced by oil will supersede the present mode, a light which will enable us to battle with the worst enemy of our calling with success. Every encouragement should be afforded to experiments in this line for it will be one of the greatest boons ever conferred upon mining to accomplish this.

Still, whatever may be done, and doubtless something will be discovered to reduce the danger of mining, nothing will ever be applied which will altogether relieve every person employed from individual responsibility and strict duty. In every branch of industry there must of necessity be lurking dangers, but these dangers may be guarded against by intelligent discipline, and no department of mining requires this more than the safety operations under the head of explosions by fire-damp and falls of roof.

If we can educate the miner to a proper sense of his duty, is not only providing himself with the means of subsistence, but to a knowledge of the danger involved in doing that duty, and the absolute importance of him himself using means provided for his own safety, and if all of us directly engaged in the profession will be determined to insist on strict discipline and a more systematic use of safety means, and to use our inventive skill to the utmost in still further reducing the risk of mining, we shall do a lasting good service to the community whose calling is equalled in importance to the welfare of a State. In the next paper on this question, of which this is introductory, it is the writer's intention to consider the subject of the various methods of working coal in their relation to explosions of fire-damp.

Mr. PARTON then exhibited a patent parallel ruler and scale combined, which was presented to the Institute. Mr. Davies, of Hill Top, is the patentee of the rule, and was present at the meeting.

Mr. HORSBURGH gave an interesting description of Fox's corrugated furnace flues, and explained their superiority over other flues, both for durability and strength.

The PRESIDENT afterwards proposed a vote of thanks to the gentlemen who had contributed papers, and to Mr. Horsburgh for his interesting address. They should have all been pleased if the gentlemen who had promised papers could have attended and read them. He moved that the best thanks of the members be tendered to those gentlemen who had come forward that day to read papers.

Mr. H. JOHNSON, sen., seconded the proposition, and paid a high compliment to Mr. Radcliffe, stating that the more they knew that gentleman the more they would like him. He also referred to Mr. Parton's able paper, and said that he was highly pleased with it. The proposition was carried, and Messrs. Radcliffe, Parton, and Horsburgh, suitably responded. Mr. Hall, of Nunanton, presented to the Institute a model of a new railway switch, patented by him, and Mr. H. JOHNSON, sen., proposed a vote of thanks to Mr. Hall for the presentation.—The proceedings then terminated.

The members then adjourned to the Dudley Arms Hotel, where they dined together. After dinner the usual toasts were drunk, and Mr. Radcliffe and his assistant—at a distance of about half a mile from each other—amused the company with Edison's loud-speaking telephone.

## NORTH STAFFORDSHIRE MINING INSTITUTE.

The annual meeting and dinner of the members of this Institute was held at Stoke-on-Trent, on Monday; the chair being taken by the President, Mr. W. Y. Craig.—Mr. J. Richard Haines, the secretary, read the report of the council, which announced the continued prosperity of the Institute. Twenty-six new members had been elected during the past year. The total now on the register, after deducting losses by death, resignation, and those struck off according to rule, was 278, a net increase of seven over those of the preceding year. After noticing with regret the death of Mr. W. W. Bowers, one of the earliest members, reference was made to the valuable papers read during the year and the important discussions which had taken place, as well as to the interesting excursion to Sheffield in August. The republication of the early "Transactions" of the Institute had incurred considerable expense, though it is satisfactory to know that another year would see their completion. During the past year a scientific reference library had been commenced, and a suitable bookcase provided. Arrangements had also been made for the exchange of Transactions of numerous scientific societies enumerated in the report, and classes had been formed under the following heads:—Practical chemistry, geology, and mine engineering. It was sincerely hoped that the knowledge obtained by the attendance at the classes would enable them to battle more efficiently with the difficulties which presented themselves in their hazardous calling, and so prevent, to a very great extent, the terrible calamities that occurred in their midst, if they could not abolish the same. The Finance Committee regretted to report a decrease in the income of the Institute for the past year, as compared with the previous year. The expenditure, although a little below that of last year, had been 89l. 19s. 8d. in excess of the income of the year. The income for the past year was 266l. 9s. 11d., and the expenditure 348l. 9s. 7d., including the cost of republishing the past "Transactions," and the purchase of the bookcase. The Institute has still 300l. invested on mortgage, which, together with the bank balance, 19l. 5s. 7d., 77l. 4s. arrears of subscriptions, and the value of the "Transactions" in hand

\* Being Notes on a Course of Lectures on Mining, delivered by Herr Berggrath, Dr. von Gadow, Director of the Royal Bergakademie, Clausthal, The Harz, North Germany.



Wheat Kitty, 7 to 7½; Wheel Peavor, 33 to 34; Wheel Prussia, 2½ to 2¾; Wheel Uny, 5 to 5½.

— **MR. J. H. REYNOLDS**, stock and share broker, Redruth (Feb. 12), writes:—The market closes as follows, being firmer than in the former part of the week:—Blue Hills, 4½ to 4¾; Carn Brea, 98 to 100; Cook's Kitchen, 7½ to 8½; Dolcoath, 67 to 69; East Pool, 36 to 37; Herodsfoot, 4½ to 5; Marke Valley, 3 to 3½; Mellanear, 6½ to 6¾; New Cook's Kitchen, 6½ to 7; North Uby, 4½ to 4¾; North Levant, 5½ to 6; North Penrynstrath, 3 to 3½; Puscina, 5½ to 6; South Caradon, 120 to 140; South Condurrow, 12 to 13; South Croft, 16 to 17; South Frances, 15½ to 16; Tincroft, 25½ to 26½; West Basset, 17½ to 18½; West Frances, 19½ to 20½; West Peavor, 10 to 11; West Seton, 67 to 69; West Tolgus, 75 to 80; Wheel Agar, 7½ to 8; Wheel Basset, 5 to 5½; Wheel Comford, 6½ to 7; Wheel Grenville, 8½ to 9; Wheel Jane, 4 to 5; Wheel Kitty (St. Agnes), 7 to 7½; Wheel Peavor, 33½ to 34½; Wheel Uny, 5½ to 5¾.

— **MR. JOHN CARTER**, mine sharedealer, Camborne (Feb. 12), writes:—A sharp fall took place in prices early in the week, which has since been partially recovered. To-day the market is quiet, with many sellers for cash. The settling of snow was a heavy one. Subjoined are the closing prices:—Blue Hills, 4½ to 4¾; Botallack, 98 to 100; Carn Brea, 98 to 100; Cook's Kitchen, 8 to 8½; Dolcoath, 68 to 69; East Pool, 35½ to 36½; Killifireh, 15s. to 20s.; New Cook's Kitchen, 7 to 7½; South Croft, 16 to 18½; South Frances, 15½ to 16½; South Condurrow, 12½ to 13; Penhals, 3½ to 3¾; Tincroft, 25½ to 26½; West Frances, 19½ to 20½; West Basset, 18 to 18½; West Seton, 67 to 69; West Tolgus, 75 to 77½; West Peavor, 10 to 10½; West Poldice, 5½ to 6½; Wheel Agar, 8 to 8½; Wheel Jane, 4 to 4½; Wheel Grenville, 8½ to 8¾; Wheel Peavor, 33 to 34; Wheel Uny, 5 to 5½; Wheel Basset, 5 to 5½; Wheel Croft, 28 to 30; Wheel Kitty, 7 to 7½; Wheel Owles, 9 to 10; Wheel Prussia, 2½ to 2¾; Wheel Union, 30s. to 35s.; Wheel Comford, 7 to 7½; Mellanear, 6½ to 7.

On Continuation (Tuesday) the following were the rates of continuation:  
 Current:—Contango: 3d. on Benhar Coal; 2½d., 3d. on Canadian Copper; 6d.  
 7½d. on Clyde Coal; 3d. on Colorado United; 9d., 1s. 9d. on Ebbw Vale; 4d.  
 3½d. on Glasgow Caradon; 2½d. on ditto (new); 6d., 7½d., 9d. on Glasgo  
 Port Washington; 9d. on Huntington; 9d. on Marbella; 6d., 3d. on Monkland  
 Iron; 9d., 11d. on ditto (pref.); 4½d. on Port Nigel; 3d. on Scotch  
 on Richmond; 9d., 2d., 3d., 6d. on Riddell; 11d. on Sierra Buttes; 11s. 3d.  
 8s. on Steel Company of Scotland; 11s. 3d. on Thariss; 1s. 6d. on Thariss (new); 1s.  
 United States Rolling Stock; 2d. on Wicklow Copper; 1s. 6d. on Wheel  
 Crebor; 3d. on West Kintyre; 2s. on Broxburn Oil; 3d. on Oakbank Oil; even, 2s.  
 on Omapa; 1s., 10½d. on Panulillo; 1s. on Steel Company of Scotland; even;



6d. on Young's Paraffin; even on Uphall Oil. On comparing the making-up prices fixed to-day for the following shares with those current at previous settlement for the same shares, the variations thus shown to have taken place during the past account are as follows:—Broxburn Oil have advanced 4s. 2s. 6d. per share; Richmond, 2s. 5s.; Rio Tinto and Uphall Oil each 10s.; Young's Paraffin, 2s. 6d.; 2s. each on Clyde Coal and Monkland Iron. On the other hand, Thariss (new) are reduced 3s. per share; Shotts, 1s.; Panulillo, 7s. 6d.; Glasgow Port Washington, Steel Company of Scotland, and Thariss, 5s.; Marbella, 3s. 6d.; Huntington, 1s. 6d.; Glasgow Caradon, 1s.; Canadian Copper, 1s.; and Benhar, 6s. 1s.; the remainder are unaltered—Glasgow Caradon (new), Monkland (pref.), Omoa and Cleland, and Oakbank Oil.

**RHOESMOR MINING COMPANY (Limited).**—The water in this mine has been gradually draining off, and there appears no doubt it is now effectually drained by the success of the Halkyn District Mines Drainage Company to below the 140 yard level. They are now working on the Westminster lode, which is rich in ore, 20 in. wide and 9 ft. long, with a continuation at both ends. Should the water continue to lower at the present rate the mine will soon be in full working order, and will realise the great profits so long expected.

**RAVENSCLEIFF MINING COMPANY (Limited).**—This company, which owns gold and copper properties in New Zealand and South Australia, is likely to come more into notice. The prospects of the gold portion are very good, and they are now going to issue some more shares at 1s. each, in order to develop the copper portion. There are a good many shareholders in the colony, which proves it is really a bona fide enterprise.

The following calculations show the yield per cent. on money invested at present prices in the shares named, based upon their last average yearly dividends being maintained:—Antrim Iron Ore, A, would yield 4½%; ditto, B, 3½%; Broxburn Oil, 3½%; Oakbank Oil, 9½%; Scottish Australian Mining, 8½%; 8-ottish Wagon, 5½%; Steel Company of Scotland, 4½%; Thariss Sulphur, 4½%; ditto new, 4½%; Uphall Oil, 4½%; Val de Travers Asphalt, 4.

**NORTH MOLTON MINING COMPANY (Limited).**—The 17. fully-paid shares of this company, which are being done at 15s., are one of the best and safest speculations in the Mining Share List for a quick rise. The company has a copper property of great promise, producing some of the richest copper ore in England, and they have also an iron ore sett. They have about 3000 tons of iron ore at surface of good quality, with a further 20,000 tons laid open above the adit level. With the present great demand for iron ore their prospects are good.

#### IRISH MINING AND MISCELLANEOUS COMPANIES' SHARE MARKETS.

**DUBLIN, FEB. 12.**—After experiencing some depression, in consequence of the information received from almost all quarters to the effect that there was less business doing, our market experienced a gratifying revival yesterday and to-day. Mining Company of Ireland are scarcely so much in request, and may be quoted about 3½ to 3½. Berehaven have been dull, but close firmer, at 8s. 6d. to 7s. Wicklow Copper show upon the week a considerable decline, but are, nevertheless, much better than on Monday and Tuesday, about 11s. to 11s. 6d. being the present price. Killaloe Slate are quiet, at 8s. 6d. to 9s. Tramways are somewhat depressed, Belfast being about 7½ to 7½, and Liverpool 11½ to 12. The Tramways Union Company announce a balance dividend of 2s. 6d., making, with the interims already paid, 7½ per cent. for the year, and 9s. 6d. is carried forward to next account. The reserved fund has been increased by 10,500, of which 8500, was the premium on the issue of new shares. Alliance Gas have been done at 15½; Macswiney at 8; an odd lot of Grand Canal at 57; and Patriotic Assurance, 7½. The improved traffic returns had a favorable effect upon railway shares, and business has been done in Cork Blackrock, and Passage at 11; Dublin, Wick, and Wex, 90½; Great Northern Railway Company of Ireland, 125½; Great Southern and Western, 115 to 115½; and Midland Great Western, 90½ to 91.

**CORK.**—Messrs. J. H. CARROLL and SONS, sharebrokers, South Mall (Feb. 11), write: "There was no feature in railways to-day. Great Southern were done at 115½, and a few Midlands changed hands at 90½. There were also some Passages sold at 11, and Bandon were offered at 47, but nothing done in them. Munster Banks were done at 7s. 7d. per share, and the new shares at 7s. 6d. to 3s. 3d. prem. Nationals continue strong, and were done at 62½. Cork Steam Packet Company, 4 per cent. Debentures, 92 to 92½. No change in Levys; Gouldings steady at 8½ buyers. The closing quotations were:—Banks: Provincial, 57½ to 68; Hibernian, 45 to 45½; Munster, 7½ to 7½; National, 62 to 62½ ex div.; Royal, 30 to 30½. Tramways: Belfast, 7½ to 7½ ex div.; Dublin, 14 to 14½; Glasgow, 11 to 11½. Miscellaneous: Arnott and Co., Dublin, 6½ to 6½; Canock and Co., Limerick, 4½ to 5; City of Cork Steam Packet Company, 12½ to 12½; Cork Steam Ship Company, 13 to 13½; Cork Improved Dwellings Company, 5½ to 5½; Corporation 4½ per cent. Debentures, 101½ to 101½; 4 per cent. Debentures, 92 to 92½; 5 per cent. Debentures, 89 to 91; Cork Harbour Docks 7 per cent. Preference, 15s. to 20s.; ditto, 5 per cent. Mortgage Debenture Bonds, 31 to 32; Harbour Board 4 per cent. Debentures, 99½ to 99½; ditto, 4½ per cent. Debentures, 101½ to 101½; Levy and Co., 7½ to 7½; John Daly and Co., 3½ to 3½; T. Lyons and Co., 4½ to 4½; ditto, fully paid, 5½ to 5½; ditto, 5 per cent. Debentures, 100 to 100½; W. and H. M. Goulding, 8½ to 8½; W. D. O'Connell and Co., 3½ to 3½. The dividends recommended are:—Dublin Tramways, 8 per cent. per annum; Dublin, Wicklow, and Wexford, 2 per cent.; Belfast and Northern Counties, 5 per cent.; Midland Dividend, 3 per cent.; Cork and Bandon, 4 per cent. per annum; Great Southern and Western Railway Company, 4 per cent. per annum—surplus, 20,000; Waterford and Limerick, 3 per cent.—surplus, 4600; Great Northern, 4½ per cent. per annum—surplus, 19,400.

#### WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,  
MINEOWNERS, STOCK AND SHARE DEALERS, &c.  
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

In the year 1843, when mining was almost unknown to the general public attention was first called to its advantages, when, properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843 by Mr. Watson, F.G.S., author of "Gleanings among Mines and Miners," "Receipts of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with Statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium, published in 1843, Mr. Watson was the first to recommend the system of a "division of small risks in several mines, ensuring the success in the aggregate," and Messrs. WATSON BROTHERS have always selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and shareholding than there is at present; and from the lengthened experience of Messrs. WATSON BROTHERS they are emboldened to offer, thus publicly, their best services and advice to all connected with mines and mining.

Messrs. WATSON BROTHERS are daily asked their opinion of particular mines, as well as to recommend mines to invest or speculate in, and they give their advice and recommendations to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

It used to be considered that tin could not be raised in Cornwall under 500. per ton, but the late depression has taught lessons in economy, and costs have been reduced in many mines. Still some must necessarily be more costly than others. A correspondent and shareholder in Carn Brea calls our attention to the fact that the ore in Carn Brea are worth, in the aggregate, more than 5000. per fathom, and that the last tin returned cost 460. per ton—that is 306 tons sold for 16,000. 6s. 10d., at a cost of 14,000., and he asks how it is that Wheal Pevor raises it under 300. per ton. The answer, we presume, is that one is a deep and expensive mine, the other a shallow one and worked cheaply.

Some of the finest stuff yet seen in the mine has been drawn this week from the 34 or bottom level north in Clementina.

At D'Eresby Mountain the Gorse shaft is being sunk 15 fms. deeper than No. 5, and this will lay open a large quantity of ore ground to be taken away with greater facility and cheapness.

Parys Corporation have sold 50 tons of copper precipitate at 10l. 10s. per ton.

We stated in our remarks of Jan. 31 that the Carnarvon sett was large enough for two ordinary mines, and that the outcrop of a big lode had been discovered in the hill, about ½ mile from Sandoe shaft. Capt. Roberts has been this week to inspect it, and writes that he has "carefully examined the outcrop of the lode, and can find no difference whatever in its appearance here at surface from what it was in the old mine, where so many thousands of ore have been raised," and he thinks it "safe to infer that this whole track of untried ground contains similar courses of ore." It is, in fact, a continuation of the same rich lode of Carnarvon.

The outcrop, he says, is strongly charged with iron pyrites, mixed with blende and spots of copper, and he also broke some very fine

specimens of lead, and this metal is often found in the outcrop of copper veins in the district.

Captain Roberts advises that men should be put at once to open on the lode, and ascertain the best place for commencing an adit to cut it at a good depth. He adds, "I think we ought to find the ore at or near the surface, as nearly all the courses of ore in the district come up to a very shallow point, and having once found them there is no fear of their not holding down."

In regard to the old mine, he hopes in two months to have the water out of the new shaft. When we introduced this mine we knew nothing of the lode in this new ground; but it is so important that the directors will have it explored at once, and it may result in a new mine altogether, in addition to the old, and to be dealt with in such a way as the shareholders may think best.

The choke in the deep adit at Prince of Wales has been cleared, and a cross-cut commenced to drive north, and we hope it may soon make a discovery.

**MR. WILLIAM H. H. WATSON, DEALER IN RAILWAY STOCKS AND MINING SHARES** at net market prices of the day.

Address: W. H. H. WATSON, 1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON, E.C.

#### THE WEEK.

**SATURDAY, FEB. 7.**—There was again a strong disposition to sell English railways, and prices were soon put down. The publication, however, later in the day of favourable Board of Trade Returns arrested the decline, and induced a favourable reaction. On the day Sheffield Ordinary advanced 1½ and Berwick ¾. There was some prominent buying of Brighton "Contingent Rights" Bonds, the price advancing from 32 to 37. This secures a dividend in common with the Ordinary after 6 per cent. has been paid to the latter. In 1878 there was a dividend, and another is looked for this year. Flagstaff were in active demand, and dealt in at all prices from 3½ to 3½.

**MONDAY.**—Brighton "Contingent Rights" were again in marked request, and rose to 40½, but the A stock was rather depressed, the increase in the traffic of only 577. being regarded as unsatisfactory. Sheffield, North British, and Caledonian were most in favour, and advanced from 1 to 2 per cent. Canadian lines were weak, many closing rather than pay the stiff contingents sure to be charged on Trunks. On Wednesday Flagstaff retained Saturday's advance, and from a feeling that the rise is not yet exhausted only small odd parcels of shares came from holders. Eberhardt rose 10s.

**TUESDAY.**—Home railways were again in favour, especially North British, Caledonian, and Sheffield, same as yesterday. In British the rise was quite 1½, to 79½, being about 3 per cent. above the price ruling at the time of the Tay Bridge disaster. It is pointed out, however, that most of the other leading railways have advanced during the interval 10 and 15 per cent. Caledonian closed at 115. Districts opened 2 down, at 76, but recovered to 78 before the close. Telegraph Construction shares fell 2½, although the interim dividend (15 per cent.) now declared will make the total dividend for the year 20 per cent. Most of the iron shares were offered, and in Flagstaff, Eberhardt, and Richmond there was a fall of 5s. Business was done in Frontino at 4. Egyptian Unifed was now up from 58½ to 60. Atlantic, Mississippi, and Ohio were dealt in at 120, having steadily risen from 80.

**WEDNESDAY.**—To the alarm of many who were looking for a further rise in Atlantic, Mississippi, the price opened at a fall of 15, and after rallying for a time to 110, dropped suddenly to 100, closing at the worst. A good deal of yesterday's rise in Egyptian Unifed was lost, while the Preference fell as much as 1½. Devon Consols, 17 to 18; Last Chance, ¾ to 1; New Zealand Kananga, ¼ to ¾; Great Laxey, 18½ to 19½; Nouveau Monde, 1½ to 1½; Don Pedro, 1 to 1½; Flagstaff, 3½ to 4; I.X.L., ¼ to ¾; Almada, ¾ to ¾.

**THURSDAY.**—During the account now being liquidated the most marked improvement in home railways has been made by North British. At the end of January they were carried over at 73½, and now at 80½. In Sheffield Ordinary the improvement has been from 87½ to 93½, and in London and North-Western from 157½ to 161½. Mississippi and Ohio declined to 100, while Atlantic closed, 187½, from being 23 yesterday suddenly advanced to 35.

**FRIDAY (Opening).**—In Sheffield, British, and Caledonian the tendency is towards higher prices, but the other home railways are dull. Sheffield, 93½ to 94; Caledonian, 117½ to 117½; North British, 80½ to 80½; Berwick, 159½ to 159½; Great Western, 123½ to 123½; District, 77½ to 77½. The various Anglo-American Telegraph stocks are quoted ex dividend this morning, as is London and North-Western stock, and in mines, Richmond and Port Phillip. Eries are 8½ better, but Atlantic and Great Western Mortgage bonds are dull, also Grand Trunk, Eberhardt, 4½ to 5½; Flagstaff, 3½ to 4½; Ruby, 4 to 4½; Almada, ¾ to ¾; Colorado, 3 to 3½; Rio Tinto, 10½ to 10½; Panulillo, 5½ to 5½; Copalpo, 18½ to 17½. Two o'clock.—Railways have been all dull, but now that the settlement is nearly over they are receiving more attention, and prices are better. In half an hour's time the delivery of stock for the day will cease. Caledonian are 1 per cent. up at 117½, and York, A, has risen 1½. Sheffield, 94 to 94½; Brighton, A, 139½ to 139½; Dover, A, 118½ to 119; East Caradon, 4½ to 5; Devon Consols, 17 to 18; Eberhardt, 4½ to 5; Panulillo, 5½ to 6. Four o'clock.—A further advance was made in Sheffield Ordinary and Deferred, and both stocks closed from 1½ to 2 better on the day. In several departments since two there has been a decided lack of animation. Trunks were quite neglected, the Ordinary being only 20½ to 21, and First Preference 72½ to 73. Atlantic First Mortgage lost 1 on the day. Wheel Crebor, 11½ to 12½; Panulillo, 4½ to 4½; York Peninsula, 1½ to 1½; Javali, ¾ to ¾; I.X.L., ¾ to ¾; Polrose, 2½ to 2½; New Zealand Kananga, ¼ to ¾; Wheel Jane, 4 to 5; Herodfoot, 4 to 5; Chapel House Colliery, 20s. to 30s.

#### PRACTICAL MINING—THE VAN MINE.

The interesting Notes on the Van Mine contributed by Dr. C. LE NEVE FOSTER, H.M. Inspector of Mines, to the Royal Geological Society of Cornwall, has been reprinted from the Transactions, which can be had of the secretary at Falmouth. Dr. Foster states that the surrounding country is for the distance of some miles composed of rocks of Lower Silurian age, and in the immediate neighbourhood of the mine the strata consist principally of roughly cleaved slates. The vein which runs through the Van Mine is known along the strike for at least nine miles—two miles beyond the point shown by the Geological Survey Map, which was made 30 years ago. At the Van Mine the lode is generally several fathoms, and the ore part is occasionally 48 ft. wide; he himself saw steps 41 ft. wide at the 90 fm. level. The Van lode is evidently a true fissure vein, and it cuts across the bedding and the cleavage of the adjacent slate rock. The filling of the original fissure is composed of three parts—firstly, on the south side, the flookan, or the soft lode; secondly, the bastard lode; and thirdly, on the north side, the regular lode. The latter consists of masses of slate traversed by veins of galena, varying in size from mere strings to leaders or branches 1 ft. to 2 ft. wide. With the galena are considerable quantities of quartz and blende, besides a little iron pyrites, marcasite, copper pyrites, and calcite. In several specimens he noticed the succession—quartz, galena, blende, quartz—but he is not sure this order always holds good. In the mines to the west of the Van (Pen-y-Llyn and Van Consols, formerly Bryntail and Glyn), the character of the lode is different, the lead ore is accompanied by witherite and barytes, neither of which minerals are found in the Van Mine.

The length of the ore ground in the Van increases with the depth of the mine from 60 fms. at the adit to more than 200 fms. at the 90; however, 150 fms. is reckoned as the length of the very productive part of the shoot—it dips mainly to the west, but gains slightly to the east also. One of the most interesting points in connection with the Van Mine is the fact that there have been emissions from the lode of a gas which Dr. Foster is told was light carburetted hydrogen, or fire-damp. This has been found at the adit and nearly every level below while tapping the lode. The gas rushes out with the water, making a great noise, always appearing to come from below. The miners look upon it as a sure harbinger of lead ore. The quantity has sometimes been sufficient to cause slight explosions, by which the men have had their hair and whiskers singed. It is not improbable also that sulphuretted hydrogen is emitted. He smelt that gas very perceptibly in one part of the mine, and more strongly he fancies than would have been the case had there merely been the sulphuretted hydrogen formed by the decomposition of the metallic sulphide in the gunpowder smoke on meeting with moisture.

As the lead ore is distributed irregularly it has been found best to remove every part of the lode, and as the large excavations would be highly dangerous if left open, and as they are too wide to be supported with timber in the ordinary way, a well matured method has been adopted of filling up every cavity immediately after the removal of the ore. The mine is worked by a vertical shaft, which intersects the flookan at 105 fms. below the adit. Cross-cuts are driven out north at intervals of about 15 fms., and when the flookan is reached a level is started and two ends are driven, one east and the other west. The flookan is chosen for this preliminary level on account of its softness, which enables a much greater speed of driving to be attained, and so affords great facility for rapidly developing the workings. From this preliminary level cross-cuts are driven out north about 20 or 30 fms. apart, and from these the first level in the

lode is pushed out east and west. This level is driven on the main leader, and generally close to the footwall. The next process consists in stripping away both sides of the level in the lode as far as the footwall on the north and the bastard lode on the south, unless the latter happens to be productive, and then it is stripped down also. At the same time the empty space is packed with deads derived from the flookan or from poor parts of the lode, and if these do not suffice further supplies are drawn from workings in dead ground at higher levels or else from the surface. The whole details of working and preparing the ore for market are given, and the account being amply illustrated by diagrams a large amount of useful information is conveyed.

#### PLACERVILLE GOLD QUARTZ COMPANY.

An interesting account of the new mill and hoisting works of this company is given in the Mountain Democrat. It appears that the rich croppings of the ledge were, as long ago as 1852, worked by hand process. For several years subsequently shareholders received princely dividends, but then it had reverses which are attributed entirely to bad management and timid backing. For many years it lay idle. Experts shook their heads in disparagement, and declared it worked out. But those who knew it best were satisfied both of the permanence of the ledge and the value of the rock, and numerous efforts were made to organise capital for its development. Some two years ago it fell into the hands of an English company, under the chairmanship of Mr. John Irving Courtenay, of London, and the management of Prof. Thomas Price, of San Francisco. Soon after the work of prospecting and developing began, and has continued steadily and vigorously ever since. The shaft, which is in two compartments, 4 ft. 6 in. by 5 ft. 5 in. each, has been carried down vertically to the depth of 500 ft., with stations at the 200, 300, 400, and 500 ft. levels, from all of which drifts have been driven far out in the ledge, which may now be said to be thoroughly opened up. Thus far the old hoisting works had been utilised, but now enlarged and improved appliances became necessary. During the past four months everything above ground has been changed or cleared away, and new buildings and machinery erected.

It is designed to use water power exclusively except at the hoisting works, where steam may be substituted in case the former should fail. To accomplish this one of the local water companies has laid an immense iron pipe—1700 ft. long, 30 in. diameter at head, and 22 in. at lower end—from the City Reservoir to near the hoisting works. A fork supplies water for the Brewster Mill. At the terminus of the large pipe are three forks carrying water to the hoisting works, the mill, and the Rose Mine respectively. Provision has also been made to supply the Chester Mine should it be required. At each of the forks is a stop-valve. The main pipe is constantly filled, and the water is let into either of the distributors by simply raising the proper valve. The head at the hoisting works is about 175 ft., at the mill about 300 ft. In the works is a hurdy-gurdy wheel, 8 ft. in diameter, pinioned to the shaft running the cable reels. The friction and brakes are controlled by two levers working with ratchets or segments of an arc, while a third lever governs the application of water to the wheel. This is a decided improvement on the clumsy wooden levers formerly in use. As before mentioned, a steam-engine is attached to the shaft for use in case of failure in the water supply.

One compartment of the shaft will be occupied by the cage for hoisting ore and the general working of the mine; the other is for raising water and sinking. The cage is provided with a safety-clutch of great strength, while by an ingenious attachment to the galloways the frame the cable is detached should it be raised too high. The main building is 36 by 76 ft.; the boiler shed is 10 by 36 ft. Everything is arranged with a view to the economical management of the work and the comfort of the men. From the shaft one track leads out to the ore bin and another to the waste dump. A trestle 400 feet in length, and a grade of 1-6 in. per foot, leads down to the mill. The highest bent of the trestle is 30 ft. 6 in. high. There is a double track, the cars being attached to a half-inch cable running on sheaves 24 ft. apart, and the loaded cars drawing up the empty ones, the speed being controlled by suitable brakes.

Mr. H. S. Morey has applied to the cars a safety-clutch or stop of his own invention, which is simple, ingenious, and effective in its application should the car by any means be detached from the cable. The mill building is 48 by 48 ft., 59 ft. high, with a shed on the west side 20 by 48 ft., making the entire floor space 48 by 68 ft. Its frame is as massive and substantial as could properly be desired; its foundation is solid rock, and the motion of the heavy machinery will hardly cause a vibration. The 20-stamp battery presents a handsome appearance. It is unquestionably as fine a battery as can be found in the State. All the appliances of the plates, sluices, &c., are of the most approved description. There are two Hendy concentrators, but they will be more ornamental than useful at present, and until rock-bearing sulphurets are encountered in the mine. An 8-ft. hurdy-gurdy wheel furnishes the necessary power.

The rock from the mine is dumped over a grizzly into the upper floor of the building. The finer pieces, dropping through the grizzly, pass directly into the bin. The remainder must be driven through the rock-crusher, which is located on this floor, and is driven by an independent 8 ft. hurdy-gurdy. This is the only handling the ore receives in the mill. From the ore bin it passes through gates into the self-feeders, of which there are four, and thence to the stamps. Here, as in the hoisting works, nothing has been omitted to economise labour and secure the best result. The Mountain Democrat congratulates the company on the prospects before them, and the mining population on the magnificent evidence of faith in the value and permanence of the lodes. The work done is described as creditable in the highest degree.

**THE MINERAL RICHES OF JAPAN.**—The Japanese have now a completely organized Geological Survey, somewhat similar to our own, with a full staff of native surveyors, under an American chief, Mr. B. S. Lyman. The first Report of Progress of this survey, for 1878 and 1879, has just been published, and contains some accurate and valuable information on the mineral wealth of the country. Mr. Lyman describes a survey journey which he made with some of his staff from June, 1878, to February, 1879, extending over a distance of 2800 miles. Mr. Lyman reckons that the coal fields of Western Japan contain about 620 million tons, and if one-third be deducted for the working, there will remain 400 million tons, representing a value at the coast of 1000 million dollars. Inconsiderable as this is in comparison with the large and rich coal fields of other lands, it is quite equal in value to all the metal products together, except iron. The copper of all the workable mines scarcely reaches the value of 750 million dollars; the eight or ten gold and silver mines, which were formerly worked and may be so again, may, including the lead, antimony, and tin mines, the workability of which is doubtful, be valued at not more than 250 million dollars. On the other hand, the value of the iron amounts to at least 250,000 million dollars, or 250 times more than that of the coal. The relative importance of the mineral products of Japan (excluding Yesso and the small coal fields of Kii, Ise, and Iwaki) may be represented by the following numbers:—Iron, 1000; coal, 4; copper, 3; all other metals (chiefly gold and silver), 1. The total value of these products reaches the sum of about 252,000 million dollars—i.e., just as much as the coal fields of Yesso, which in other respects is so poor in natural products. Mr. Lyman gives some details concerning 24 of the hot springs in Shimotsuke, Iwashiro, Uzen, and Ugo, and a table of the petroleum springs of Japan, according to which by far the most numerous and most productive are in Echigo and in Akita Ken, and the total delivery in the year 1879 was 4525 gallons per day.

**HOLLOWAY'S PILLS.**—The diseases common to our climate and endangering men's physical condition, will always exist though many may be mitigated and their effects removed by timely aid appropriately applied at the proper time. Holloway's pills are acknowledged far and wide to be the most effective purifier of the blood, the most certain regulator of disordered organs, and the most incontestable aperient that can be prescribed. This medicine is applicable to all alike, young or old, robust or delicate; it increases the appetite, and controls all derangements of the bowels. After the disorder is subdued occasional doses of these pills will prevent any relapse, and moreover secure, promote, and intensify the good results which flow from perfect purity and regularity.











**NORTH D'ERESBY.**—Feb. 12: The lode in the No. 1 adit is showing a better appearance for the production of lead than it has ever done before. The part of the lode carried is 4 ft. wide, with lead disseminated throughout.—No. 2 Adit. The lead bearing part of the lode appears to be standing to the east of the present

you with a report on these mines I beg to state that Mr. Thomas and one of the largest shareholders accompanied me underground on the 9th inst., when

**PEN-YR-ORSEDD LEAD MINE.—SPECIAL REPORT.**

Pen-yr-Oreadd an investment of extraordinary value, and one that, in his opinion, cannot fail to become rich and lasting.—**ABESALOM FRANCIS** (of Ffyn Fawnd at Gwernymynydd Mine).



**Mr. THOMAS THOMAS,**  
MINERAL AGENT AND ASSAYER,  
COPPER ORE YARD, STRAND, SWANSEA.  
Sales and Purchase of Minerals and Metals arranged. Assays and Analyses  
carefully conducted. References given.

**C. A. SCOTT,**  
METAL AGENT AND BROKER,  
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### TO THE METAL TRADE.

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### The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, FEB. 13, 1880.

IRON.	£ s. d.	£ s. d.	TIN.	£ s. d.	£ s. d.
Fig. GMB, L.O.B., Clyde...	3 9	—	English, ingot, L.O.B. 101	0 103	0 0
" Scotch, all No. 1...	3 12	—	" bars...	102	0 104
" Bars, Welsh, L.O.B. Wales	0 0	—	" refined...	104	0 105
" in London...	0 0	8 10	Australian...	96	0 0
" Stafford...	10	0 0	Banco...	(nom.)	—
" in Tyne or Tees...	8 0	0 5	Straits...	96	0 0
" Swedish, London...	12	0 13	COPPER.		
Rails, Welsh, at works...	8	0 0	Tough cake and ingot...	79	0 0
Sheets, Staff., in London...	10	0 12	Best selected...	80	0 0
Plates, ship, in London...	10	0 10	Sheets and sheathing...	82	0 0
Hoops, Staff., in London...	10	0 10	Flat bottoms...	88	0 0
Nail rods, Staff., in Lon.	9	10 0	Wallaroo...	82	0 0
STEEL.			Bars, or P.O.C....	80	0 0
English, spring...	16	0 19	Other brands...	78	0 0
" cast...	30	0 40	Chili bars, G.O.B....	72	0 0
Swedish, keg...	15	0 0	PHOSPHOR BRONZE.		
" fag. ham...	16	0 0	Alloys I., II., III., and IV. ...	£125	0 0
LEAD.			" VI. and VII. ...	142	0 0
English, pig, common...	19	0 0	" XI., Spl. bearing metal	119	0 0
" L.B. ...	19	0 0	BRASS.		
" W.B. ...	20	0 0	Wire ...	3 1/2	d.
" sheet and bar...	20	0 0	Tubes ...	3 1/2	d.
" pipe ...	20	0 0	Sheets ...	3 1/2	d.
" red ...	21	0 21	Yel. met. sheath. & sheets	6 1/2	d.
" white ...	25	0 0	TIN-PLATES.*		
" patent shot ...	22	0 23	Charcoal, 1st quality ...	1 1/2	0 18
Spanish ...	19	0 13	" 2nd quality ...	1 1/4	0 15
Metal, per cwt. ...	15	0 16	Coke, 1st quality ...	1 1/2	0 0
Ore, 10 per cent. per ton ...	0 25	0 0	" 2nd quality ...	1 1/2	0 0
QUICKSILVER.			Black ...	per ton	17 0 0
Flasks, 75 lbs. (nom.)	7	0 0	Canada, Staff. or Gla. ...	12	0 0
SILVER.			at Liverpool ...	30	0 0
Silesian ...	21	7 8	Black Taggers, 450 of ...	14	0 0
English, Swansea ...	21	0 0	" 14 x 10 ...	30	0 0
Sheet zinc ...	25	0 25			

\* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; IX 6s. per box more than IX quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

**REMARKS.**—The quietude which prevailed in our market at the beginning of the week gave a slight turn to prices in buyers' favour, and no doubt they appreciated the boon very much, as the previous tendency was so completely in an upward direction that they were, in many instances, urged forward against their will to pay the rapid advances. Besides, an occasional trifling fluctuation is rather acceptable, and a healthy sign, as it tends ultimately to strengthen the market, and place it in a more advantageous position, by bringing in fresh buyers; and such is the probability at the present time, as buying has already begun on a very extensive scale. The time for effecting another advance is evidently beginning to be made, and, when it is thought that all the weak realizations have taken place, and there is no longer any advantage to be gained by procrastination, the chief promoters will soon abandon their watchful attitude, and come forward with renewed activity, and prices will then once again move rapidly in sellers' favour. Buyers need to be warned of over-caution, or they will miss their opportunities. The effect intended to be produced by a downward movement is often unsuccessful to those who bring it about; and its results are more than doubtful at the present period, when such a confident feeling exists. It is very necessary, therefore, that all bear operations be limited, and conducted with extreme caution and foresight; otherwise, instead of being attended with profit, they will entail a serious loss. A little pause is sometimes the prelude of a great advance, and before the chance occurs to cover an open contract prices may be carried away far beyond all expectations; in fact, it is exceedingly dangerous on the part of any one, in a market like the present, to take any undue liberties, or to act in any way against the strong current of public feeling. The higher value of metals has met with approval; and, as long as the demand is equal to the supply, and the statistics prove this to be the case—there is no reason why prices should not be firmly maintained, and enhanced quotations obtained. While touching upon the question of statistics, we would here remark that it would be as well, for the protection of the trade, to establish a rule that in future no deliveries from private or secret sources should be considered a legal tender. It is quite in the power of all trades to make their own rules and customs; and, after the lengthened and sharp discussion which has recently been going on upon the subject, some formal notice on the point would be welcome from the leading authorities of the market. The objections to deliveries from such sources are so great that it is almost unnecessary to state them. The Board of Trade returns for last month are satisfactory, for they show a large increase in the percentage of both quantity and value of most metals, especially iron and steel. It is fully believed that the genuine improvement which has taken place in trade generally will continue, and that the American requirements, as well as those of India and other countries, will increase. If the prospect of better times is therefore so encouraging, why will naturally be better prices. Sellers submitted the low prices during the period of depression; and now that there is a revival of trade, buyers must expect to pay better prices, and make good in some measure the sacrifices which sellers formerly sustained. The markets are now only returning to their normal condition, and average prices at least may be looked for. It is only reasonable that there should be a change—and an important change—in the value of such important articles as metals. With the exception of the last few months, they were, in many instances, being sold below cost of production; and, as is sometimes the case in times of severe depression, they were knocked down to ridiculously low prices, from which there may be a rebound to absurdly high prices, although as yet prices are only moderate.

**COPPER.**—As anticipated in our last issue, the copper market this week has certainly assumed a much more favourable tone, and prices, although not now materially differing from last week's quotations, with the exception of slight fluctuations, are fairly steady. Holders are daily gaining more confidence, as they find the *bona fide* demand is improving, especially for best selected for home consumption; and there have also been several orders for Indian sheets placed up to 8d. These two favourable features, in combination with others, renders the market extremely firm. The quantities of Chili bars offering at present prices is very limited, and the energy and ability which have lately been manifested in the general management of the market give undoubted courage to the numerous buyers in making operations of an extensive character. Each turn of the market seems to bring out renewed vigour and vitality; and, in taking a review of the whole state and condition of the trade in connection with this market, it seems pretty evident that prices are destined to reach a much higher figure ere long. As the time approaches for the announcement of the next charter—which are expected to be light—there will probably spring up a strong demand for Chili bars at better prices than at the present prevail. It must be remembered that prices are still below the average; and, as soon as some of the stocks get worked off, there is apparently nothing to prevent quotations rising far above what is now quoted. In fact, speculators will probably not wait to allow stocks to be reduced to any great extent before they enhance the market value, because consumers are thought to have very little copper on hand. There is no reason why copper should not participate in the general improvement in trade as well as other metals; and, although at present it has not hitherto moved so rapidly or to so great an extent as some other metals, yet there is nothing to prevent it now from gradually, if not rapidly, attaining the position to which it is duly entitled—that is to say, in proportion to the improved value of other metals.

**IRON.**—This market remains steady, and sellers keep very firm in their quotations. The Indian demand, however, has at present in no way responded to the rise. A few second-hand parcels have been bought for that country at prices somewhat below makers' quotations; but, with these exceptions, there have been scarcely any orders placed since the upward movement began last autumn. Indian investors are evidently too slow to pay advanced prices, and consequently they are often shut out and have to pay a much dearer figure when their absolute and pressing requirements force them to make purchases. Their dilatoriness may arise either from apathy, or from having been accustomed for so long a time to low prices, that they cannot become reconciled to the increased rates. But now the tendency of the market has so completely changed, and the repeated increased demand for other countries, as well as for home consumption, makes it very certain that hesitation is extremely dangerous; and Indian merchants, as well as other buyers, must be fully prepared to pay higher prices for some time to come, as most makers are still well booked with orders, and there seems every probability of the demand increasing rather than decreasing, as the revival is evidently now well established. The Middlesbrough market is reported firm, and a good deal of disposition to do business is manifested amongst buyers, who are daily becoming more acquainted with the enhanced quotations. The improved position of the Scotch market naturally affects prices favourably in this district, and makers are now quoting 6d. to 1s. per ton advance upon former rates. Second-hand parcels of No. 3 are quoted at about 6s. for immediate delivery, and forge iron is realizing about 1s. 6d. to 2s. per ton more. For forward delivery No. 3 is selling at 6s. 6d., and makers are asking about 2s. to 3s. above these figures. This wide difference between

the cash and forward prices is a strong indication of the probability of higher quotations shortly ruling. There is a slight increase in stock of about 750 tons. Shipments last week were not so good; in fact, it is said they were smaller than they have been at any time before this year. This, however, is not thought much of, as there are still large orders in hand for delivery to America and the Continent, the estimated quantity of the shipments to the United States alone during the next few months averaging about 15,000 tons per month. The deliveries to Scotland last week were also rather more limited, but this is accounted for by sellers being loth to send iron there while prices were below what they have lately been averaging. There are still more furnaces being blown in, which will necessarily further increase the production; and it is expected that the production this year will be much larger than it has ever been known before in the history of the trade. Manufacturers are all exceptionally busy, though prices make no particular movement. Nevertheless, they keep steady at 9d. 10s. for plates; 8d. 12s. 6d. for common bars; 8d. 15s. to 9d. for angles; and puddled bars at 6d. to 6d. 2s. 6d. per ton. The Birmingham trade is reported brisk, and the various establishments are all steadily engaged. The demand, however, has at times been rather slack, which is thought to have been occasioned through buyers being indisposed to pay the increased prices; nevertheless, having plenty of work on hand, they have not thought it necessary to make concessions. A slight lull is said to have been perceptible on the Sheffield markets, but the demand for hematite ore is very good; and, as it exceeds the supply, the makers are enabled to ask very high rates. There are a good many orders being placed for manufactured iron—boiler plates are fetching 10d. 10s. to 13d. 10s.; bars, 9d. 10s.; hoops, 11d. 10s.; and sheets, 13d. 10s. The American demand is well maintained, and some of the large houses are receiving excellent orders. The trade in the Welsh districts is fairly active, and there can be no doubt now as to the permanency of the revival. Large exportations of pig iron are being made to the United States, and fair quantities are going forward to the Continent. All the establishments are busily engaged, and some are receiving increased business. Prices are well maintained, and one parcel of rails is said to have been sold at 6d. 5s. in London. The warrant market is steadily improving, and extensive sales have taken place from day to day.

**SHIPMENTS—FOREIGN AND COASTWISE.**  
For week ending Feb. 7, 1880 Tons 14,150  
For week ending Feb. 8, 1879 " 6,139  
Total for Christmas to date... 1860 1879 1880  
Furnaces in blast... 111 87 87 119 119 121  
Imports of Middlesbrough pig iron into Grangemouth:—  
For week ending Feb. 7, 1880 Tons 4,140  
For week ending Feb. 8, 1879 " 7,096  
Increase over 1879... 11,076 tons.

Stock in Connal and Co.'s Glasgow Stores:—  
Feb. 7, 1880, 439,001; Christmas, 1879, 415,625; Christmas, 1878, 199,417 tons.  
**TIN.**—Throughout the week this market has been active, and prices have, to some extent, recovered from the recent fall; there is also considerably more tone prevailing in the market than during last week. Prices have been steadily advancing on account of good buying; and, as the latest statistics showed the deliveries to be exceptionally favourable, there seems every probability of prices again shortly attaining the figures at which they were quoted about a fortnight ago. Just lately the Customs' returns have shown the imports of Australian tin to be rather large; and this, together with some heavy realizations which have lately taken place, has undoubtedly been the means of knocking down prices about 7d. per ton. The quantity, however, now on the way is very much diminished; and, although the actual stocks may show an increase, shipments from the Straits and Australia are particularly moderate. The additional requirements for which this metal is now used, have permanently increased the demand, and places it in a much stronger position than has ever before been known. Holders have no occasion to feel apprehensive with regard to the future course of prices; for, although they may be at the present moment temporarily unsettled by an exceptional cause, yet they are in a fair way of recovery, and are likely to be still further enhanced.

**LEAD.**—This market keeps steady, and a moderate demand still exists. Quotations, however, have made no change, sales of common pig having been effected at 19d. to 19d. 2s. 6d., and choice brands at 5s. to 7s. 6d. per ton more.

**SPELTER.**—Owing to a rather better demand prevailing for Silesian, sellers have been quoting about 5s. to 10s. above last week's figures, thus bringing the present quotation up to about 21s. 5s. to 21d. 10s. English hard and zinc is offering at former rates, with much business being transacted.

**STEEL.**—Itails, as well as most other descriptions, continue in good demand for shipment to America, and considerable activity is reported at all the works throughout the country.  
**TIN PLATES.**—There is no change in price, but makers keep well booked with orders, and a good demand continues to exist for both charcoal and coke.

**QUICKSILVER.**—The importers of Spanish early in the week accepted some orders at 7d.; but there are a good many buyers at this price, and at the close nothing is offering under 7d. 6s.

**Messrs. Fry, James and Co.**—Our markets have been less excited, and prices have receded a little in most metals, but the position is perhaps all the more sound for a little pause. COPPER has been rather irregular, having fluctuated as much as 50s. a ton on Chili, which receded to 70d. 10s. cash a few days ago, but has since recovered from 30s. to 40s. per ton. Other descriptions have varied but slightly, and a good deal of fine copper has been bought for consumption and export.—IRON is without material change.—TIN has been depressed by some arrivals from Holland of tin which was exported during last year and now returned to this market. A fall of 4d. to 5d. a ton in fine foreign has been the consequence.—SPELTER dealer by 10s. a ton, and in demand.—LEAD is rather quiet, at a decline of about 5s. per ton.—TINPLATES without change.

**THE MINING SHARE MARKET.**—On the whole, has been rather quiet this week, and the dealers are chiefly occupied in the settlement of another very heavy fortnightly account, which commenced almost before the last was concluded, and will not be settled for several days yet.

The mines mostly dealt in have been Devon Great Consols, Wheal Crebor, East Caradon, Bodidris, East Pool, Glenroy, Great Laxey, Mellanear, Parys, Polrose, Carnarvon, East Crebor, North Penstruthal, South Penstruthal, Prince of Wales, South Darren, Herodsfoot, Derwent, West Tolgus, Grenville, and a few others.

**TIN.**—No change in the standard for ore this week, and tin mines generally have been rather weaker, and without much activity in the market. Carn Brea, 97½ to 100; Dolcoath, 67½ to 70. Wheal Peavor, 33 to 34, ex div.; at the meeting, in Cornwall, the accounts showed a profit on four months' working of 4916l. 16s., and a credit balance of 5883l. 4s. 11d., out of which a dividend of 17. 12s. 6d. per share was declared, leaving 1000l. in hand. The tin sold realised 10,739l. 5s. 8d., against costs, 5222l. 9s. 5d. The mine is looking remarkably well, and the agent considers the returns of tin for the next 16 weeks will be the same as last; and, should the price continue as at present, a larger profit may be expected at the next meeting. Wheal Basset, 5 to 5½ (call paid); at the meeting the accounts showed a loss on six months' working of the sum of 5699l., and a balance against the mine of 6077l. A call of 17. per share (6000l.) was made. The amount due on old calls was 948l. 8s. 5d., and 192 shares were forfeited. Lyle's shaft is in fork to the 100. Grace's shaft is cleared and secured 8 fms. below the 20, and the committee are sanguine that at no distant day the success which their neighbours have attained will be realised also at Wheal Basset. West Frances, 22 to 22½; at the meeting here the accounts as presented showed a profit of 825l. No call was made. Cook's Kitchen, 8 to 8½; the accounts showed a loss of 702l. on four months, a balance against the mine of 4115l., and a call of 10s. per share made. Blue Hills, 4 to 4½; Botallack, 90 to 100; East Lovell, 3 to 3½; East Pool, 35 to 37; Polrose, 2½ to 3½; Phoenix, 5½ to 6; New Wheal Peavor, 2½ to 3½; South Condurow, 12 to 13; South Croft, 16 to 17; South Frances, 15½ to 16; Tincroft, 25 to 26; West Basset, 18 to 19; West Peavor, 10 to 10½; Wheal Agar, 8 to 8½; Wheal Grenville, 8½ to 9½; Wheal Kitty (St. Agnes), 7 to 7½; Wheal Uny, 5 to 5½; Wheal Sisters, 5½ to 6 per 6000th; Wheal Owles, 9 to 10; South Penstruthal, 1 to 1½; Wheal Jane, 5 to 6, call paid; Wheal Jewell, 1 to 1½; West Kitty, 2½ to 3.

**COPPER MINES** have been in fair demand. Devon Great Consols, 17½ to 18½; Wheal Crebors advanced to 13, buyers; but at the settlement, owing to a heavy bull account, receded to 12, and leaves off 12½. No change in the mine. Carnarvon Copper, 1 to 1½; East Caradon, 5 to 5½; Gawton, 30s. to 35s.; Hingston Down, 25s. to 30s.; Killifreth, 22s. 6d. to 27s. 6d.; Mellanear, 6½ to 6½; Marke Valley, 2½ to 3; Morfa Du, 1 to 1½; East Crebor, 25s. to 30s.; Prince of Wales, 15s. to 17s. 6d.; South Caradon, 140 to 160; West Seton, 70 to 75; West Tolgus, 72½ to 75. New Cook's Kitchen, 7 to 7½; at the meeting a loss was shown of 530l. on four months' working, and a call of 5s. was made. Parys Corporation, 27s. 6d. to 30s. The mine has sold 50 tons of copper precipitate at 10d. 10s. per ton, and is preparing 250 tons of copper ore for sale. West Devon Consols, 1 to 1½.

North Penstruthal became flatter towards the earlier part of the week, as it was supposed the lode was not looking so well, but they rallied again on Friday, and leave off 3 to 3½. The latest report states that the lode in the last few feet sinking in Highburrow shaft has undergone a great change for the better; now 3 to 4 ft. wide, producing yellow and grey copper ore. The 88 west has also improved.

**LEAD MINES** have not been so much in demand this week. Van,

21 to 22; the agent reports a discovery of the north lode. Wheal found at surface it is 5 to 6 ft. wide, and very promising in appearance; a short adit has been commenced to prove it a lower depth. Roman Gravel, 11½ to 12. Tankerville, 5½ to 6; the new shaft at pump sump is now down about 18½ fms. from surface. The sale of ore this week—80 tons—realised 1202l. South Darren, 3½ to 3½; the various points maintain the values of last week. The monthly sampling to-morrow will be increased to 55 tons silver-lead.

Derwent, 4 to 4½; good progress is being made with the cross-cut in the north vein. Pandora, 17s. 6d. to 20s.; the report is very favourable, and the agent expects to show a fair monthly report. Glenroy, 20s. to 25s.; the lode in the bottom level north is 8 ft. wide, and greatly improving in appearance. The south end is becoming harder, with more blende. East Van, 2½ to 3. Gorsead and Merilyn, 2 to 2½. Pateley Bridge, 15s. to 17s. 6d.; the 30 end east, on Rake vein, is still looking promising. Gwern-y-Mynydd, 5½ to 6, continues to open out well; the sale of ore on Thursday, 50 tons, realised 633l. 15s. Frongoch, 4½ to 5; this mine has sampled 100 tons of lead, for sale on the 17th. Caron, 2 to 2½; Crosswood, 1 to 1½; Grogwinion, 2½ to 4; Hartington, 1½ to 2; Mawston, 1½ to 2; Red Rock, 2½ to 3; West Wye Valley, 1½ to 2; New Wye Valley, 1½ to 1½; Ystwith, 1½ to 1½; Herodsfoot, 4½ to 4½; North D'eresby Mountain, 1 to 1½; Aberllyn, 1 to 1½; Van Consols and Glyn, 3 to 1; West Asheton, 3 to 3½. West Chiverton, 1½ to 2½; call paid. West Holway, 1 to 1½.

**FOREIGN MINES.**—Capiapo, 16 to 17; Cape Copper, 39 to 41; Colorado, 2½ to 3½; Canada Gold, 1½ to 1½; Ruby, 4½ to 5. Blue Tent, 2 to 2½; a telegram during the week announces a further partial clear up, with a return of \$7500 for six days work, or equal to 250l. per day. Steady work is being carried on now the frost has broken. Placerville, 2½ to 2½. Birdseye, 3 to 3½; the return for January, notwithstanding frost and snow, is \$3500. Chontales, 4 to 5; advises this month show a loss of 497l., including 160l. spent on extraneous charges. Javali, 1½ to 1½; the return of gold here is 310 ozs., 825l., against a cost of 812l. Don Pedro, 1½ to 1½; Eberhardt and Aurora, 4½ to 5; Exchequer, 4 to 4½; Flagstaff, 4 to 4½; Frontino and Bolivia, 3½ to 4; I.X.L., 4 to 4½; Nouveau Monde, 1½ to 1½; South Indian, 2½ to 2½; Last Chance, 12s. 6d. to 15s.; New Quebrada, 4 to 4½; Panulillo, 5½ to 6; Pestarena, 6s. to 8s.; Port Phillip, 12s. 6d. to 15s.; Richmond, 13 to 13½; St. John Del Rey, 260 to 270; Santa Barbara, 2½ to 2½.

The Market for Mine Shares on the Stock Exchange has been considerably less animated than for several weeks past, and the tendency of prices has been decidedly downward until yesterday afternoon, when there was a partial recovery, so that comparing to-night's prices with those of last Friday, the decline is less apparent; there has been, moreover, a much better feeling to-day, and a free expression of opinion that the comparative dullness was merely temporary. The declaration of a handsome dividend—17. 12s. 6d. per share—at Wheal Peavor, and the rumour that Devon Great Consols shareholders are likely to receive dividend warrants within a month have produced a favourable effect, and as there has been no decline in the price of ore to account for the slackness, the confidence that at least present prices will be maintained is considered to be fully justified.

The Provincial Share Markets generally have shown considerably less animation, especially at the beginning of the week, although there has been a slight recovery yesterday and to-day; there is still, however, a fair amount of business transacted. On the Manchester Stock Exchange dealings were recorded yesterday (\* = odd lot) in Andrew Knowles (22l. paid) at 7d. 5s.; Bolckows, 153½ and (20l. paid) 47; Cannels, 4 prem.; Chillington Iron, 6 1-16th; Ebbw Vale 6½ and 6½ cd.\*; Hopkins, Gilkes, 4 13-16ths\*; John Brown, 13½ cd.\*; Staveley, A, 28½ pm.; and Tredegar, B, at 28.

Wheal Peavor, 33½ to 34½ ex div.; the profit shown in the accounts presented at the meeting on Tuesday (fully reported in another column) was 4916l., raising the undivided profits to 5883l. 4s. 11d. A dividend of 17. 12s. 6d. per share was declared. The Chairman (Mr. Thomas Pryor) said that the accounts included all liabilities to the end of January. Their labour cost was a little heavier than at the last meeting, but they had extended their dressing-floors and their burning-house at a cost of 200l. extra, and it had all been charged in the present accounts. All the tin had actually been sold, and the tin bills were on the table. At the last meeting they had a balance in favour of the mine of 3366l. 8s. 8d., out of which a dividend of 16s. per share was declared, leaving a balance of 966l. 8s. 8d. This added to the present profit left the available balance stated above. Captain Joseph Pryor resigned, in order to take a better appointment at Wheal Prussia, and 10 guineas was voted to him in recognition of his past services. Mr. Thomas Pryor's exertions on behalf of the company were very highly spoken of, and it was resolved that, in consideration of the flourishing state of the concern, a gratuity of 100 guineas should be awarded to the three officials, Mr. Thomas Pryor, the purser; Mr. F. W. Michell, the engineer; and Captain White, the manager. The steady increase in the amount of dividend paid at each successive meeting gave general satisfaction, and the fullest confidence was expressed in the permanence of the enterprise.

New Wheal Peavor, 2½ to 3½, and in demand; this mine is under the same management as Wheal Peavor and West Wheal Peavor, in the parish of Redruth, and possesses the same rich lodes.

The Phosphor Bronze Company directors will recommend the usual dividend of 10 per cent. for 1879 at the meeting to be held on Friday.

The Australasian Agency and Banking Corporation, formed with a capital of 1,250,000l., in shares of 10l. each, of which 94,235 have been taken up in Melbourne, are inviting subscriptions in London for 20,000 shares, upon which only 17. per share (5s. on application and 12s. on allotment) will be called up at present. The object of the enterprise is to raise money by share capital by receiving money on loan or deposit, and by the issue or sale of bonds or debentures, and to invest and lend out such money on the security of stock, stations, wool, and other pastoral and agricultural produce, and on real and leasehold estates and other property in the Australasian Colonies and New Zealand, to negotiate loans, to discount and guarantee bills and other negotiable securities, to act as stock, financial, and general agents, and to undertake any other banking or financial business—English or Australasian. It is provided by the Articles of Association that not more than 2l. per share shall be called up, except in pursuance of a resolution of a general meeting, at which not less than three-fourths of all the shareholders for the time being entitled to vote at such meeting shall be present, or by proxy, and that no call shall exceed the sum of 10s. per share, and that three months' notice at least shall be given of each call. The business given to the company by its own shareholders and their friends has hitherto been sufficient to yield a good profit on the capital employed. The report presented to the general meeting in Melbourne on July 22, with the balance to June 30 annexed, stated that the net profits of the half-year's operations, after deducting interest, rebate, and expenses of establishment, amounted to 7298l. 5s. 11d. To this has been added the balance brought forward from the last half-year, amounting to 2860l. 9s. 7d. There is consequently available from the last account the sum of 10,158l. 15s. 6d., out of which the directors proposed a dividend at the rate of 10 per cent. per annum, absorbing 4711l. 15s., leaving 5447l. 0s. 6d. to carry forward. At the fifth half-yearly meeting, held in January last, an additional dividend at the rate of 10 per cent. per annum was declared, and 5000l. added to the reserve fund, which now stands at 25,000l.

The prospectus of the East India Rhea Company is to be issued at Calcutta as soon as the large machine invented by Dr. R. H. Collyer shall have arrived at that city and been put in operation. The machine is, with very trifling modifications, the same which the inventor has successfully used in Europe for converting vegetable fibres into half-stuff. It appears that in 1872 Dr. Collyer had conquered the difficulty as regards the treatment of the dried rhea stems; but as the Government of India made it a condition that the prize offered should only be given for a machine that would treat the rhea in a fresh or green state, he was unable to make his final experiments until he arrived at Sabarnpur, a few days distance to the recent trials. He now claims complete success; that not a fibre is lost, and that it is so thoroughly cleaned of all extraneous matter as to command a high value for manufacturing into the finest fabrics after having undergone the necessary chemical preparation. It is estimated that 1¼ ton per acre per annum, worth 90l., can be produced for 30l., leaving 60l. per acre per annum profit. The Bank of Oldham has been registered, with limited liability and a capital of 1,000,000 in shares of 20l. each, 51. per share to be called up. The population of the borough of Oldham alone is about 130,000, and at present there is no bank in the town. The prospectus makes out a good case for the necessity and prospects of the proposed institution.

The Kapanga Gold Mining Company, with a capital of 50,000l. in shares of 17. each, is about to recommence vigorous operations at the mines heretofore owned by the New Zealand Kapanga Company, the necessary resolution having been passed at the extraordinary general meeting of the latter company held to-day authorising the



liquidator to transfer the property to the new company on the terms already known to the shareholders.

The mining districts of Soupyang, Grabak, Soungel Abou and Si Begoy, and Telaki in Sumatra, inland from Padang, on the West Coast, has just been inspected and reported on by Mr. John Munday, of Victoria (recommended to Mr. D. Verbeek, by Major Couchman, Secretary for Mines at Melbourne). The rock formations, in which the quartz veins yielding gold occur, are chiefly slate, probably Devonian and Silurian. Bordered on the slate strata are found fields of granite and of greenstone. The quartz veins crop out in the slate country at all elevations from the low gully to the high mountain top, and contain heavy gold pieces, of several ounces weight, being sometimes met with. The gold, the standard of which varies greatly, is generally accompanied by iron pyrites, and sometimes, as at Soupyang, the auriferous veins contain sulphide of antimony and argentiferous pyrites, but the natives seem to have attended principally to gold workings, and not to mining for native metals, but not for ores. The horizontal tunnels, and the native appliances for separating gold are very primitive, but the Malay is very expert in the use of the wooden bowl. After giving through the Malay is very expert in the use of the wooden bowl. After giving some details concerning each of the districts mentioned, Mr. Munday states that he considers the country inspected presents a large field for mining enterprise, and that he considers the country inspected presents a large field for mining enterprise, and that he considers the country inspected presents a large field for mining enterprise.

Devon Great Consols shares have been in demand at 17 to 18, closing at 18 to 19. It is understood that greater progress is now being made with the rock-boring machinery.

Mid-Devon, 4 to 5; the improvement reported last week in the western workings at the 80 fm. level main lode has since been fully maintained, and rich yellow ore in good quantities has been raised each day. The appearance of the lode is everything which could be wished, and the character of the ground at the eastern end has also within the past few days greatly improved; some important discoveries are expected to be made here shortly. The cross-cut north on the cross-course at the 80 fm. level, although still some distance from the north lode, is yielding some rich copper ore, which promises well for cutting a good lode here.

South Caradon have improved to 155, 165; and it is reported from the neighbourhood of the mines that the recent important discoveries of copper ores at and near the two shafts continue to look equally as well as at the meeting of shareholders.

A serious complaint is made by certain capitalists who have provided funds for the working of mines of great promise, but which are suffered to remain comparatively idle. It appears that after the formation of the company a considerable amount of capital (about one-tenth of the company's nominal capital) was subscribed, and the fully-paid shares to which the vendors and promoters were entitled were duly handed over. The capital in hand has been frittered away, and the mines are still almost without machinery and working plant, and less than 20 men are employed. But the main cause of complaint is that the company's money has been used for circulating and other methods for procuring *bona fide* applications for shares at a premium, and that the promoters and their associates have been transferring their own fully-paid shares to the applicants instead of permitting the funds to reach the company's coffers, and be applied to the development of the mine, so that the public have now subscribed more thousands of pounds than hundreds have reached the mines. The request to publish the name of the concern and the whole details of the matter cannot, of course, at present be granted, but it may be well for those complained of to get the mines fully at work before the general meeting to avoid awkward questions.

Richmond, 13 to 14; the usual telegram from the mines at Eureka Nevada states that the week's run was \$50,000, from 817 tons of ore. During the week the refinery produced doré bars to the value of \$40,000. The manager (Jan. 21) reports that in the 400, on the quartzite, the ground is very favourable for drifting, and the limestone overhanging the quartzite is of a better character for carrying ore than it has been for some time. The rise in the back of No. 15 chamber to 78 ft. from the level of the 400 in very fair ore. The vein here runs north with assurance the lode is down 19 ft. in very good looking ground for ore. The chambers are all opening well, and producing the usual quantity of ore. No. 15 chamber promises to be very large. The furnaces are in good working order, and smelting an average quantity of ore.

Ruby, 4 to 5. The seam in the intermediate level is of a promising character and one which it is believed cannot fail to lead to a large body of ore. The prospects of cutting the lode rich from the cross-cut towards the Home Ticket are favourable, not only from the character of the ground itself but also from the fact that the lode at present being worked upon from the Home Ticket, which at a depth of 125 ft. from surface is producing ore that pays well, and improves in depth. The cross-cut will intersect this lode at 50 fms. deeper. The cross-cut will be proceeded with as soon as the communication is made with the vein from the 500 ft. cross-cut, which it is expected will be finished this month. Altogether the prospects of the mine were considered bright.

The market for Hydraulic or Gold Washing Company's shares is reported firm. The weather in California gives promise of proving a most abundant water season; up to Jan. 3, the rainfall in Nevada county had been over 22 in., and this is more than three times that of last year. The frost has to a certain extent delayed operations, but this is in favour of a longer water supply. Blue Tent, 2 to 2½; a telegram to hand during the week announces a partial clean-up after a six days' run with 12,000 in. of water, resulting in a return of \$7500, or equal to 2500 per day. The last clean-up was for 22 days, with a return of \$17,000. This less than 30 days' work has given a yield of about 50000. The new superintendent has made extensive improvements since he has had charge. Henceforth the washing will be continued night and day, instead of from 10 to 12 hours per day, as heretofore. Enderby Creek, 3 to 3½; notwithstanding the frost, the washings for January have resulted in a return of \$3500, which may be considered satisfactory.

Missouri Lead, 10 to 11; advices from the mine (Jan. 24) report St. Clair shaft completed to a depth of 190 ft., and state that the shaft would be entirely completed in the ensuing ten days. Master shaft has been cleared of rock and water, and sinking and drifting with rock-drills is to be commenced in a few days. Capt. Champion has also forwarded to the directors a full general report on the St. Clair estate, which forms a valuable portion of the company's property, in the course of which he says that "the estate contains 380 acres, and is covered with valuable forest timber, consisting of oak, hickory, maple, and black walnut. There is estimated to be upon the property 25,000 cords of firewood, besides a large amount of splendid timber suitable for the general purposes of the mine. The coal wood and timber are estimated as worth 30000. To the company. The St. Clair lode shows great strength from surface to present depth."

Virneberg, 2 to 2½; the manager reports the opening of a new section of copper ore ground at the bottom level by a rise almost immediately south of shaft; this is regarded as a good indication for the next deeper level, which will probably be reached by the end of this month. The indications in the 100 metre level driving north, under the rich ore ground proved in the adit level, are becoming more decided; when this level intersects the course of ore, it will at once give over 50 fathoms of back. The system of dressing has been modified, so as to yield ore of higher percentage and reduce the tonnage; last week's return was 22 tons. A shipment will be made shortly.

In Lead Mine Shares there has been much less doing, although the price of the ore remains steady, and there is considered to be every prospect of a continuance. Van, 21½ to 22½; Capt. Williams reports the discovery of a north lode running parallel with the main lode. Where cut at surface it presents a very promising appearance, and is from 5 to 6 ft. wide. A cross-cut has been started to prove the lode.

Frongoch, 4½ to 5½; another parcel of lead ore, this time 100 tons, has been sampled for sale on Tuesday, making the third 100 tons sent to market since Christmas, and it is understood that if the frosty weather had not seriously hindered dressing operations as many tons probably have been got ready and sent to market. Moreover, a good deal of delay has been caused by the erection of new and much larger self-acting dressing machinery, but this is stated to be now nearly complete, and will be capable of dressing from 400 to 600 tons of ore per month, and possibly even more than that if required. The accounts to hand this week from the mine report that every point of importance is looking well, and prospects are cheering.

Grosvinon, 3½ to 4; the reports continue satisfactory, and the deep workings are said to be still opening out better than any of the upper levels. The prospect at a recent meeting of all that could be desired, and the opinion expressed that anywhere else seems likely to be realised. Caron, 2 to 2½; good progress is still making, and the sinking of the shaft for a new level is going on rapidly. The lode is stated to be improving, and the slopes are yielding well considering the shallow depth. Another parcel of ore will be got ready as quickly as possible. Red Rock, 2½ to 3; good accounts are to hand as to the recent discoveries in the eastern workings on the Frongoch lode. Further improvements in this portion of the mine are expected.

Ytwith, 1½ to 1¾; active operations have been commenced, and it is stated that the mine already shows signs further of improvement. An experienced engineer has recently reported favourably on the property. The indications on the Penzance lode induced the belief that some discoveries are near at hand.

New Wye Valley, 1½ to 1¾; the sinking of the new shaft is making rapid progress, and the manager states that it will be completed well within the estimated time both as to time and cost. The other chief points of operation are showing good results, and the mine altogether is being developed with a view to good

and lasting returns. The sales already made from the shallow levels amount to between 18,0000, and 20,0000, all raised from above the 46, and it is stated that the lode in the bottom corresponds with what was passed through in the 10, where it was very rich in ore for a great width, and yielded 8 to 10 tons of lead per fathom. It is stated that all who have inspected the property have assented that it is a continuation of the great Van lode, and this opinion is considered to be justified by its geological character and mineral contents. The mine is said to be provided with all needful plant and machinery, and the whole is worked by water-power from the River Wye, which runs through the sett.

Mineral Corporation, 12 to 13; no alteration worth notice is reported from the mines; it is stated that now the weather has broken the few fathoms still remaining to be driven to reach the lode will be pushed forward, when it is believed regular sales of ore will commence. Gwynnynydd, 5½ to 6; there were 50 tons of ore sold yesterday at the Holywell ticketing. The prospects of the mine are reported as of a highly satisfactory character.

Pateley Bridge, 3½ to 4; the 40 end east on Rake vein is in a strong lode—at present unproductive. The slope in back of this level is worth 1 ton per fathom. The 30 east is very promising. The lode in the sump under the 40 is worth 1 ton per fathom.

[The closing quotations being given in the Share-List on the last page of the Journal it is unnecessary to repeat them here.]

\* With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—Original Correspondence: The Colouring of the Geological Map of the South-West of Ireland; Mining in Ireland—No. VI.; Cheap Shares in Prosperous Iron Companies; the Royal School of Mines; Eberhardt Tunnel—the Emma; the Profits of Gold Mining; Don Pedro Gold Mine (R. Fay); the Richmond Mining Company; the Cedar Creek Mining Company; Yorke Peninsula Mining Company; the World's Copper Statistics; Copper Mines at the Cape; Boring Machinery; Cornish Tin Mining—No. I. (R. Treddinick); All About Tin (W. Tregay); Great North Downs and Pendarves United Mines; West Basset; Neglected Securities—New Brompton; Lead Mines—Herodfoot; Failures in Business (R. Symons); East Peavor Mine (T. R. Parkyn, jun.); Cwm Dwyfor Mine; the Llanwrst District, and Griffin Mine; Mining in Llanarmon; Mining in Cardiganshire; New Brookwood—Buckfastleigh (George Scarfe); English and Australian Copper Companies; Meetings of Public Companies; West Cliverton, East Cliverton, West Cliverton, Wheel Peavor, Prince Patrick Lead, Glenroy Lead, Port Phillip and Colonial Gold, and Victoria (London) Mining Companies. New Hydrostatic Joint. The Tin, Copper, and Coal Trades. The Coal Mines of the Western United States. The Comstock Lode—its Formation and History. Australian Mining Manual; How to Invest; Saw and Reap; Traverse Tables; Our Water Supply; Lett's Popular Atlas. Foreign Mining and Metallurgy. The Almadá and Tinto Consolidated Silver Mining Company. A New Water-Waste Preventer. Copper Ore Sales. Foreign and Australian Mines, &c.

CORNWALL GREAT CONSOLS.—From the interest which is so generally felt in the progress of this company, on account of the influence it exerts on the value of surrounding properties, it is more than usually gratifying to observe continued evidence of prosperity. From the report of Capt. Miners, in another column, it appears the mine is opening up splendidly in the bottom, the lode yielding tin at several different points. It seems another sale of tin will be made during the present month, making the second sale since the engine-shaft was forked, now scarcely four months since—a fact which speaks volumes for the resources of the mines, and also for the management. We trust the spirited proprietors will reap to the fullest extent the reward they deserve, and which, judging from present appearances, seems certain to follow as a natural result of more extended operations.

WEST HOLWAY.—The new shaft is sinking on a splendid lode, and everything at the mine is making great progress.

SOUTH DARREN.—The report this week states that the various points in operation maintain the values last reported. The sampling will be increased to 55 tons of silver-lead, which at the same rate as was obtained at the January sale (18s. 4s. per ton) would realise 1001.

DERWENT LEAD MINES.—During the past week the report of Capt. Arthur Waters on this property—to which reference was made in a recent number of the *Mining Journal*—has been issued to the shareholders. Capt. Waters deals fully with the past history and present workings of the mine, and concludes by saying that, "If you will develop the mines to the extent, and after the manner pointed out herein (a mode of working to which your manager and I have jointly agreed), my opinion, after careful reflection, is that you will be rewarded by a long and prosperous future." The purchase of the freehold of the extensive mineral rights will place the company in an exceptionally advantageous position, and as we understand that they have a good balance of working capital there appear good reasons to anticipate a realisation of Capt. Waters's prediction. We may add that the office of the company is at 8, Austinfriars, where Capt. Waters's report may be obtained.

DEVON GREAT CONSOLS.—PRICE OF COPPER.—It will be found that in January, 1869, Devon Great Consols shares were then 1024 in number, and the price then quoted was 320 to 340 per share, or 320,0000. to 340,0000. for the mines, or equal to 32½ to 34½ per share of the present number of shares—10,240—into which the company is now divided. The mines paid in dividends in that year (1869) the sum of 17,4080.—(in January 4½ per share, March 4½ per share, May 4½ per share, and in September 5½ per share) or equal to 17½ per share on 1024 shares, or, in other words, equal to 17½ per share on the present number of shares—10,240. It is a singular coincidence that the present price of Chili and English copper is now exactly the same as then—January, 1869.

MESSRS. W. DUNN & CO., STOCK & SHARE DEALERS, 3 AND 4, GREAT WINCHESTER STREET BUILDINGS, LONDON, E.C. ESTABLISHED 1868.

Messrs. W. D. and Co. are prepared to do business in the following shares, either as Buyers or Sellers, and give the prices at which business could have been done at 4 P.M., Friday.

Buyers.	Sellers.	Buyers.	Sellers.
Ashton	£ 1 1/4	Llandegla	£ 1 1/4
Bedford United	1 1/4	Parys Corporation	28s.
Bodidris	1 1/4	Pateley Bridge	17s. 6d.
East Caradon	1 1/4	Pen-y-Orsedd	1 1/4
East Lovell	2 1/4	West Holway	1 1/4
Hingston Down	1 1/4	West Kitty	2 1/4
Killifreth	1 1/4	Wheel Peavor	32
Leadhills	3 1/4	Wheel Crebor	12 1/2
Prince Patrick	2 1/4	South Wheel Crebor	1 1/4

PEN-YR-ORSEDD and BODIDRIS strongly recommended at present prices.

STOCKS AND SHARES, FOREIGN BONDS, TELEGRAMS, TRAMWAYS, RAILWAYS, AND OTHER LEADING SECURITIES.

MR. JAMES STOCKER, STOCKBROKER, 2, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C. ESTABLISHED 1848.

SPECIAL BUSINESS in the following—	Richmond.
Almadá Consolid., 17s. 6	Glenroy, 25s.
Carnarvon, 24s. 6d.	Grosvinon, 23½.
Chontales, 8s. 6d.	Herodfoot, 24½.
Consolidated, 21s. 3d.	Hingston, 31s.
Derwent, 43½.	Killifreth, 31s. 6d.
Don Pedro, 24s.	Leadhills, 44½.
East Caradon Consols.	Last Chance, 12s.
East Lovell, 43 3s. 9d.	Marke Valley, 43½.
East Caradon, 45 1s. 6d.	New Cook's Kitchen.
East Crebor, 27s.	North Penstruthal.
Eberhardt.	Nouveau Monde.
Flagstaff, 24s.	Parys Corporation, 31s.
Gawton, 35s. 6d.	Poize, 42½.
	Prince of Wales, 17s. 6d.

BANKERS: LONDON AND WESTMINSTER.

MR. W. B. COBB, STOCK AND SHARE DEALER, 29, BISHOPSGATE STREET, LONDON, E.C.

Business transacted in every description of Stocks and Shares. Fortnightly accounts opened on receipt of usual cover.

SPECIAL DEALINGS in the following, viz.:	50 Pestarena.
30 Bedford United.	50 Rossa Grande.
75 Don Pedro.	10 Roman Gravel.
5 Devon Consols.	20 South Darren.
10 East Van.	10 Tollya.
30 East Crebor.	10 Tankerville.
30 Eberhardt.	100 Nouveau Monde.
30 Parys Copper.	100 Wheel Jewell.

BWLCH UNITED.—One of the finest investments of the day, the shares of which should be secured at once for a great rise in price and dividends.

BANKERS: ALLIANCE BANK (Limited).

MR. E. J. BARTLETT, BRITISH AND FOREIGN STOCK AND SHARE DEALER, No. 30, GREAT ST. HELEN'S, LONDON, E.C. PEN-YR-ORSEDD, GREAT HOLWAY, and WEST HOLWAY shares should have a great rise—rich courses of ore proved.

JUST OUT.

HOW TO INVEST, post free, One Shilling, Fourteenth Edition, much enlarged.

CAPPER PASS AND SON, BRISTOL,

ARE BUYERS OF  
LEAD ASHES SULPHATE OF LEAD, LEAD SLAGS,  
ANTIMONIAL LEAD, COPPER MATTE, TIN ASHES, &c.  
and DROSS or ORES containing  
COPPER, LEAD, AND ANTIMONY.

HENRY NUTT AND CO.,  
57, BRISTOL ROAD, BIRMINGHAM  
PURCHASERS OF

LEAD ASHES, LEAD SLAGS, SULPHATE OF LEAD, TIN  
ASHES, TERNE ASHES, AND ALL REFUSE CON-  
TAINING TIN AND LEAD.

GEO. G. BLACKWELL,  
26, CHAPEL STREET, LIVERPOOL,  
PURCHASER OF

MANGANESE, ARSENIC, FLUOR-SPAR, WOLFRAM, BLENDE, CALA-  
MINE, CARBONATE AND SULPHATE OF BARYTES, ANTIMONY ORE,  
CHROME ORE, MAGNESITE, EMERY STONE, PUMICE STONE,  
OCHRES AND UMBERS, CHINA CLAY, LEAD ORE FOR POTTERS,  
TALC, PHOSPHATE OF LIME, &c.

HENRY WIGGIN AND CO.  
(LATE EVANS AND ASKIN),  
NICKEL AND COBALT REFINERS,  
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C. H. WALKER AND CO.,  
MINING AGENTS AND ENGINEERS  
VALPARAISO AND SANTIAGO,  
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Assays or Complete Analyses made of Copper, Silver, Lead, Zinc, Tin, and  
other Ores.  
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106, QUEEN VICTORIA STREET, LONDON, E.C.

JOHN TRAGARDH AND CO.,  
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EXPORTERS OF  
SWEDISH INGOT COPPER, AND IMPORTERS OF MANUFACTURED  
COPPER, TIN-PLATES, GALVANISED IRON SHEETS, TIN, and LEAD.

AUSTRALIAN TIN—PRIZE MEDAL, 1877.  
THE UNDERSIGNED IS PREPARED TO EXECUTE  
ORDERS for the  
"KANGAROO" and other GOOD BRANDS.  
S. L. BENSUSAN  
Kangaroo Tin Works, Sydney, 21st May, 1879.

SOUND MINING INVESTMENTS	
In the latter part of July last I advised the purchase of—	
Carn Brea, at £ 23½	Carn Brea, at £100
Cook's Kitchen, at 23½	Cook's Kitchen, at 8
Dolcoath, at 26	Dolcoath, at 70
East Pool, at 9½	East Pool, at 35
Mellencar, at 3½	Mellencar, at 7
South Frances, at 7½	South Frances, at 16½
Tincroft, at 9	Tincroft, at 26
West Basset, at 4½	West Basset, at 18
West Frances, at 6½	West Frances, at 23
West Peavor, at 23½	West Peavor, at 70
West Seton, at 18	West Seton, at 70
Wheel Peavor, at 9	Wheel Peavor, at 38

I venture to suggest a similar rise in some half-dozen other mines within the ensuing six months, founded on their merits.

CHARLES BAWDEN, MINING ENGINEER AND SHAREDEALER,  
ST. DAY, SCORRIER, CORNWALL.  
C.B. has the advantage of being resident in the heart of the great mining districts of the county.

MR. THOMAS THOMPSON, JUN., STOCK BROKER,  
16, ST. SWITHINS LANE, E.C.

Mr. THOMPSON transacts business in every species of Stock Exchange and Mining Securities.  
Mr. THOMPSON affords reliable information to investors, and can give, when desired, a list of first-class Stocks and Shares, yielding 4 to 10 per cent. dividends upon present prices.  
Mr. THOMPSON's weekly Circular may be had on application.

PENNINGTON AND CO., SWORN BROKERS,  
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Transact business in every description of Stocks and Shares.  
ESTABLISHED 1869.—BANKERS: ALLIANCE.

ABBOTT AND WICKETT,  
STOCK AND SHARE BROKERS,  
COMMISSION AGENTS AND GENERAL ACCOUNTANTS,  
Address: MINING OFFICES, REDRUTH.

MESSRS. GAPPER AND CO., PRACTICAL CIVIL AND  
MINING ENGINEERS, 5, AUSTIN FRIARS, LONDON, E.C.  
ESTABLISHED 1842.

Messrs. G. and Co. strongly recommend the purchase of LADY BERTHA UNITED SHARES as a lucrative investment and a certain rise in price.

FOR SALE:—  
100 Bettws-y-Coed, 50 Parys Corpora., £1½. 25 West Kitty, £3.  
£1 1s. 2 West Tollys, £75. 10 Wheel Crebor, £12.  
125 East Crebor, £1 5s. 20 Wheel Kitty (Tin), £7 10 Wheel Grenville, £3.  
Applications received for 2000 TYN-Y-FROD Lead and Blende Mine Shares of £1 each, payable by instalments of 2s. 6d. each, at intervals of not less than three months—not more than three calls or 7s. 6d. likely to be required.  
Information, reports, &c., forwarded upon application.  
Address, H. WILKINS, 3, Heybourne Villas, Tottenham.

MR. W. TREGAY, MINING ENGINEER, REDRUTH, having  
had long experience in all classes of Metallic Mines, is open to INSPECT,  
ADVISE, and REPORT on any MINING PROPERTY at home or abroad.  
All business communications promptly attended to.

MR. JOHN RISLEY, STOCK AND SHARE BROKER,  
38, CORNHILL, LONDON E.C.  
ESTABLISHED 1858.  
BANKERS: LONDON AND WESTMINSTER, Lothbury.

Strongly recommends the immediate purchase of POLBROSE TIN SHARES. This great property, situated near the Great Wheel Vor and Great Works Mines, is in the centre of a group of tin lodes that have given over two millions sterling in dividends; and, according to all reports, a large area of rich tin ground in Polbrose undeveloped, from which great riches will be forthcoming during the present year.

J. R. strongly recommended WHEEL CREBOR SHARES when they could have been bought at 5s. each about 12 months ago, now the shares are £12½, £13. With equal confidence he now recommends Polbrose Tin Shares at £3 each. J. R. also recommends the following Shares for a rise during the next few months:—Wheel Sisters, West Tollys, Wheel Peavor, Prince of Wales, and West Seton.

MESSRS. J. TAYLOR AND CO.,  
MINING ENGINEERS AND INSPECTORS,  
88, LONDON WALL, LONDON, E.C.,  
Have Agents in England, Scotland, Wales, and on the Continent.  
BUSINESS IN VIRNEBERG Shares.

MESSRS. JAMES SCOTT AND CO., PALMERSTON  
BUILDINGS, OLD BROAD STREET, LONDON.  
Crebors, East Crebors, and Prince of Wales have risen immensely since we first directed attention to them. We now especially request attention to West Devon GREAT CONSOLS as the finest speculation in the market. These shares will rise considerably, and should be bought as an investment.

WEST DEVON GREAT CONSOLS.—We are prepared to deal in these shares at close prices. The price to-day is 20s. to 22s. 6d., but is safe to rise next week. Telegrams have been received in London from the district, stating that the discovery on the copper lode running into the property from Devon Consols is of the most promising character.

Just published, post free, 1½d., stamps.  
"SOW AND REAP"—A Monthly Journal for Investors.  
Contains valuable information on Stock Exchange, Mining, and other matters, a review of the month, and special recommendations.  
Published by the Western Exchange, 14, Old Town-street, Plymouth.



### Notices to Correspondents.

\* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt; it then forms an accumulating useful work of reference.

ASHBURN—T. E. (Haverstock-hill).—The offices are at Messrs. John Taylor and Sons, 6, Queen-street Place, E.C.

AVIS IMPORTANT.—AUX ABONNÉS ÉTRANGERS DU "MINING JOURNAL."—A cause de la CONVENTION POSTALE INTERNATIONALE il y avait à partir de Juillet, 1875, une diminution du prix de l'abonnement au Mining Journal pour bien des pays dont le taux des postes était jusque là bien élevé. A présent le prix de l'abonnement est de 39 frs. le port compris pour l'Autriche, Belgique, France, Danemark, et ses dépendances, Roumanie, Russie, Serbie, Suède, la Suisse, la Turquie, l'Afrique septentrionale, Venezuela, et tous les autres pays de l'Union Postale. L'abonnement est payable par anticipation ou par mandat postal international ou par autre mandat sur Londres. Le montant, si l'on le veut, sera touché à domicile le fin de l'an, mais en ce cas nous tirons à vue, sans avis, et sur le dos de la note. L'abonnement continuera sans avis contraire.

Received.—H. B. (Ontonagon).—J. J. S.—J. L.—H. B. H.—H. C. S.—The letter has been forwarded.—A. O.—J. H. L.—J. J. S.—T. S.—H. S.—W. M.—T. W.—R. E.—Shareholder (Wheal Pevor).—Old Reader (Glamorgan). The expenses would certainly be heavy, and the chances of obtaining any return exceedingly doubtful.—J. W. P. (Glasgow).—An Old Shareholder (Don Pedro).—Clean Bird (Huddersfield).—J. C.—Devonian wishes to know where the North Molton Mine is situated. Being a resident in the locality he would inspect it, and send some particulars for publication in the Journal.—One Interested (Don Pedro) cannot understand the strangely conflicting statements respecting this property, published in some circulars which have been forwarded to his address.—An Old Shareholder in Devon Great Consols.—Don Pedro cannot understand how anyone interested in the property can write, under the signature of "Shareholder," against its value.—Shareholder (West Chiverton) should write to Mr. Sharp, the Secretary, who will readily reply, and send the information.—W. Tregay.—D. C. D.—Hesitating Investor (Griffin). Next week.—A Subscriber (Wicklow).—T. E. C.—W. P. (Oldham).—Shareholder (Swansea).

## THE MINING JOURNAL, Railway and Commercial Gazette.

LONDON, FEBRUARY 14, 1880

### COAL AND IRON INDUSTRIES OF YORKSHIRE. THE BARROW SILKSTONE COLLIERY.

One of the finest and best laid out collieries in the kingdom is that now in course of development, belonging to the Barrow Hematite Company, situate about four miles from Barnsley, on the margin of Worsbro' Park. It had long been a matter of speculation as to how the Silkstone seam would be found below the Barnsley bed, as the former had only been worked towards the outcrop, and the Barrow Company was the first to solve the important problem, and to establish the fact that in the neighbourhood of Barnsley there was what may be termed a new coal field, of at least 18,000 acres, at a distance of not more than 500 yards from the surface. We have it, therefore, that wherever the Barnsley seam has been worked—and a large portion of it has been exhausted—the Silkstone bed will be found at a depth from it of some 370 or 380 yards. Between the two there are four seams of coal, three at least being of good quality, the Barrow Company at the present time working two of them—the Thorncliffe and the Silkstone. The plant and workshops cover a large area of ground, and a considerable space is occupied by coke ovens and slack washing machinery, for a good deal of the coal raised is converted into coke for the vast works of the company at Barrow. There are two drawing shafts, with massive head gearing and pulleys, one being connected with the Silkstone seam and the other through the Parkgate to the Thorncliffe bed, but at present only one drawing shaft is in use, as the other is not quite completed. The chimney stack is one of the finest that can be met with in any district, being more than 100 feet in height and about 8 feet in diameter inside.

There are two engine houses, large and substantial, one of them having a pair of winding engines, made by Daglish, of St. Helens, and having 36 inch cylinders, 20 feet drum, and 6 feet stroke. The coal is drawn by a round wire rope, 1½ inch diameter, made by Scott Brothers, of Gorton, near Manchester. In the second engine house there are a pair of similar engines. The motive power is obtained from eight tubular boilers, about 30 feet long, made by Woodhall and Morley, of Barrow. New buildings are being erected for the blacksmiths, fitters, joiners, sawyers and others for the necessary work required in carrying on the colliery is down on the ground, whilst all the most recent appliances as regards efficiency and economy are adopted in connection with them. There is also a locomotive shed on the ground, and at present there is one engine, but there will be a second one as the workings are extended. The drawing shafts are each 15 feet in diameter, with 35 yards of metal tubing in each, which keeps the water back from where the Barnsley seam has been worked, and the remainder is bricked to the bottom.

The Thorncliffe seam is about 420 yards from the surface, and the Silkstone bed 481 yards, the upcast shaft from the Silkstone bed is 17 feet in diameter. At the bottom there are three arches, the centre one being 15 feet and the side ones 6 feet wide, all running into one. From the one arch, 35 feet wide, but which is not yet completed, some idea of the substantial character of the arches may be inferred when it is stated that they have required several millions of bricks in their construction. The bricks were made from the clay found on the ground by means of one of Pollock and Pollock's machines. From the bottom of the Silkstone shaft the roads have been driven out north and south about 27 chains. To bring the coal from the different places it is intended to have endless wire ropes at each end, worked by small engines, so that there will be a good deal of manual and horse labour saved, so that the necessary work will be more speedily and effectually accomplished. The coal is worked on the longwall principle, and the ventilation is obtained by means of a powerful Guibal fan. There are eight vanes or wafers to the fan, which is 46 feet by 15 feet wide, and driven by a 36 inch cylinder engine. The shaft of the fan, which is of steel, was made at the company's works at Barrow, and the other portion of the works of the Staveley Company. The engine that drives the fan was also made at Barrow. The quantity of air that is sent into the two seams is at the rate of about 160,000 cubic feet per minute, but if required could be raised to 300,000 cubic feet. In sinking to the bottom coal several other beds were passed, in the following order:—Swallow Wood coal, 3 ft. thick; Ivan coal, above 2 ft. thick; Parkgate coal, 4 ft. thick; Flockton coal, 2 feet 3 in. thick; Thorncliffe coal, 4 ft. 4 in. thick; silkstone coal, 5 ft. 6 in. thick.

The latter is a rather tender coal, with about 6 inches of dirt in the middle, but is a first-class coal for coking and gas making purposes; whilst the top portion of the Thorncliffe bed in particular is well adapted for steam and household uses, being very hard. The Parkgate coal is inferior to the Silkstone, but is raised at several collieries in South Yorkshire, and in all probability will ultimately be worked by the Barrow Company. In the Silkstone seam, however, several "throws," or faults, have been met with, that cause some little inconvenience. Still the coal itself is equal to any found in the district, being of a high illuminating power, and yields about 11,000 feet of gas to the ton, and will give upwards of 12 cwt. of coke to the ton. Of the Silkstone coal the chemical products are:—Carbon, 80.46; hydrogen, 5.08; oxygen, 6.80; nitrogen, 1.67; sulphur, 1.65; moisture, 1.04; ash, 3.30. Specific gravity, 1.260.

At the present time there are only about 400 men and boys employed, but when the colliery is fully developed more than double that number will be engaged, for there will be a daily out-put, if necessary, equal to 1500 tons. The colliery is connected with the Manchester, Sheffield, and Lincolnshire Railway, and the coke is put on to the Midland from it at a point near Barnsley, and from there taken direct to Barrow, where the consumption is something immense, seeing that the company have no less than sixteen blast furnaces. As might be expected, great attention is paid to the production of coke, so as to get it of good quality. With respect to the ordinary beehive ovens, it has been found that the coke burnt in them

for fewer hours was inferior for smelting purposes than that burnt for a longer period, owing to its not being so easily oxidized. The usual time occupied in burning is from 74 to 84 hours, and sometimes more. But by the Belgian or Coppee ovens the coke is made in about 24 hours, and the Barrow Company has adopted them as being in every way suitable and economical. The characteristics of the Coppee furnaces are—a small width, and an arrangement of channels especially suited for poor coals; a combustion of gas by a double admission of air, which entirely suppresses the smoke; the combination of all the hot gases in a large conduit beneath the ovens, and their utilisation for heating boilers; and galleries for cooling and preserving the brickwork.

It has been estimated that a furnace can heat a three or four horse boiler. In connection with the Barrow Colliery there are now 30 Coppee ovens in operation, 30 more are in course of construction, whilst the number that will be at work is to be 120. The slack before being taken to the ovens is well cleansed by means of Sheppard's patent system. It is first taken to an open place under the railway, and by an elevator is taken upwards to a large tank of water, when the dust flows over the top of a valve, the water being kept agitated, or in motion, by a pump. The slag is washed over the top of the tank, and falls into the elevator, and by an endless chain is carried to another tank on the top of the ovens, and then discharged into them. After burning 24 hours the coke is brought out by what is called a "pusher," worked by a small engine. It is then slacked with water, and this gives it a rather dull appearance, not looking so silvery and bright as that made in the ordinary beehive oven, but for all practical purposes it is fully equal to any that is made. The system of washing is a great improvement over that of cleansing in open troughs, or by the old mode pursued at many places. Coppee ovens have many advantages over the elliptical beehive ovens, and as economy in the production of coke is becoming more and more important we think a summary showing the chief points of comparison between the beehive and the Coppee ovens will be of interest. It was prepared by Mr. E. Bainbridge, and is as follows:—

	Beehive.	Coppee.
Cost 2 tons of coke per day ...	£119 7s.	£100
Time of burning.....	48 to 24 hours	24 hours.
Area per ton of coke daily ...	1218 ft. sq.	234 sq. ft.
Per cent. of yield .....	45 per cent.	59 p. ct.
Outside cooling surf. p. 2 tons	1002 sq. ft.	175 sq. ft.
Time in emptying & re-filling	60 minutes	8 minutes
Units of heat in waste gases	966,710	1,401,584
per oven .....		
Labour charge per ton .....	1s. 3d.	11d.

The arrangement for charging and emptying show a marked improvement in the yield. The ovens at the Barrow Colliery are not so large as some others that have been erected, turning out about 30 cwt. of coke per oven. The clay found at the works is utilised in the making of bricks, and is of excellent quality, and there is no doubt but what the fireclay that is connected with the coal measures will be more thought of than they have hitherto been, for they should be almost as valuable as the coal itself. The cost of sinking and building with the plant must have amounted to a very large sum indeed, seeing that no expense was spared in making the colliery and its surroundings as perfect as possible. For the workmen some 400 roomy houses have been erected, so that the place looks like a small and well laid out little town. In all departments there is a strong and efficient staff. Mr. C. Beevors, formerly of Dodsworth Silkstone Colliery, is the certificated manager, Mr. W. Kellett the consulting engineer, and Mr. Podmore the chief of the financial department. The area of the field is upwards of 1000 acres, the lessor being Mr. Edmunds, of Worsbro' Hall.

### OUR EXPORTS OF MINERALS AND METALS.

Nothing can better show the active state of the coal, iron, and steel trades than the Board of Trade returns giving the exports for January, and in which every way they may be looked at they are in the highest degree satisfactory. In coal and patent fuel the increase has been of a marked character, the quantity shipped to foreign ports last month having been 1,299,789 tons, against 1,047,369 tons in January, 1879. But this increase has been contributed to in some measure by the low prices which the fuel was sold at during January last, which only averaged about 9s. per ton, being 2d. per ton less than in the same month of last year. The increase in the value, however, was equal to 21.1 per cent. between the two periods, and of course in favour of the 1880 month. Coming to the metals we find that whilst in the first month of last year the quantity sent abroad was 47,534 tons, in January last it was 102,565 tons, with a considerable advance in the value. In taking finished iron and steel of every description, the most noticeable feature is the exports to the United States, which have rapidly extended since September last. In hardware and cutlery there was sent last month to the States to the value of 38,198l., whilst the exports to British India were valued at 30,058l., and to Australia to 25,499l. The next best customers were the Brazils, the British possessions in South Africa, Germany, and France, the total value for the month being 254,616l. In railroad iron of all sorts the value of the exports in January last was 280,187l., against 144,522l. in the same month of 1879. Rails, of course, were the most important items in the list, and the United States even heads the returns as regards those made of iron, the quantity sent there last month being valued at 41,511l., whilst none at all were sent there in the same months of 1878 or 1879. But as might be expected, the increase is one that is not likely to be continued, for whilst it was nearly three times as much as in the corresponding month of last year, it was considerably less than in January, 1878. To Russia, Sweden and Norway, and Germany, no iron rails have been exported so far during the present year. The reports as to the marked activity in connection with the production of steel rails have been fully borne out by the returns, and British India again takes precedence, the exports there for the month being valued at 73,719l., the United States standing next with 46,234l., although in January, 1879, they were only credited with having the latter to the value of 500l. Neither Russia nor Germany took any steel rails from us during the present year, but it may be said that it is understood that some orders for the former are now in the hands of English makers.

There has also been a falling off as regards Australia, Spain, and Sweden and Norway. Of railway material of every description the exports for January last were of the value of 280,187l., against 141,522l. for the same month of 1879, although in the former none was exported to Russia, Germany, or Holland. Of the total the United States has to be credited with 88,025l., against 549l. in January, 1879. In ordinary machinery and millwork the exports for the first month of the year compare favourably with those of the previous January, the value being 355,881l., against 306,055l. On the other hand, however, there was a considerable falling off as regards steam-engines, the value of the exports last month having been 180,104l., whilst in the corresponding month of 1879 they were 218,921l. The decline appears to have been with respect to Spain and the Canaries principally, but less was also done with Russia, Germany, Holland, and Belgium. As so much interest has been shown in the unusually heavy demand of the United States for English iron of every description during the last four months at least, the following figures showing the exports to that country may not be out of place at the present time:—

	Pig.	Railway.	Bars, sheets, &c.
October, 1879 .....	87,491	6,468	3,135
November, 1879 .....	67,474	9,357	11,597
December, 1879 .....	45,390	7,066	11,022
January, 1880 .....	56,570	15,327	11,804
	256,925	38,218	37,558

There was no material change with respect to the exports of pig, rolled sheet, or other description of lead in wrought copper, as well as in mixed metal for sheathing; but in plain steel, for which some of the Sheffield manufacturers have such a high reputation, there was a marked increase in the quantity sent away, whilst prices also advanced; and the same may also be said with regard to galvanised and other wire, hoops, sheets, and boiler and tin plates. As before stated, the returns are most satisfactory, and show the legitimate

character of the business done. The total value of the imports for the month ended January 31 last was 32,372,907l., against 26,367,044l. in 1879, and 30,609,956l. in 1878, being an increase of 22.8 per cent. as compared with 1879, and 5.9 per cent. as compared with 1878; and the value of the exports during the month amounted to 16,912,884l., against 14,196,518l. in 1879, and 15,423,911l. in 1878, being an increase of 19.1 per cent. as compared with 1879, and 9.7 per cent. as compared with 1878.

### OUR RAILWAY IRON ABROAD.

It must be admitted that the New Year has commenced in an encouraging fashion as regards the exports of our railway iron, the total shipments of the past month having been 46,778 tons, as compared with 20,473 tons in January, 1879, and 31,832 tons in January, 1878. Notwithstanding the present dearth of rails, the demand on Anglo-Indian account is still well maintained, our total exports of railway material to British India in January this year having been 16,498 tons, as compared with 4095 tons in January, 1879, and 18,460 tons in January, 1878. It is certainly somewhat remarkable to find that the United States have once more taken the second place among foreign consumers of our railway material, our exports in that direction in January this year having amounted to 15,327 tons, while in January, 1879, they were only 75 tons, and in January, 1878, just nothing at all. However, we must take matters as we find them, and it is very cheering and easy to do so in this instance, seeing that the figures standing to the credit of last month in respect of rail shipments to the United States have materially helped up the general aggregate of the month. It will be seen that the exports of our railway iron to British India and the United States amounted last month to about two-thirds of the whole shipments in all directions in the same period. It is, then, of some importance to enquire whether the demand on the part of these two quarters of the world is likely to be of a permanent character. We had recently a semi-official admission from the United States that they would, probably, consume 100,000 tons or thereabouts of English rails in 1880. It will be seen that the actual consumption in January this year was at the rate of something over 180,000 tons per annum; and, should the course of events across the Atlantic continue as favourable as at present, it is very possible that the American estimate to which we have just referred may be exceeded, and that the aggregate American consumption of our rails in 1880 may prove to be nearer 200,000 tons than 100,000 tons. With the year still so young as it is at present all conjectures or suppositions upon the subject are necessarily of little value. Still we may fairly take it for granted that the American demand for our rails is far from being exhausted, and that further shipments will be continued during the remainder of the hopeful year upon which we have recently entered.

As regards the Anglo-Indian demand, the Afghan war is, no doubt, a drawback to the prosperity of British India, as it must have an exhausting effect upon the public revenue, and must render the Anglo-Indian authorities less disposed to engage in reproductive public works. Still, it may be fairly remarked that the hostilities which have been carried on in Afghanistan for the last few months have taken place in a remote quarter, and scarcely in India at all, so that the whole of that vast dependency has practically remained in the enjoyment of peace. Moreover, the Afghan hostilities, as we have termed them, can scarcely be dignified with the name of war, since we have engaged practically in a guerilla strife rather than in any formal military operations with a settled government. Had the struggle in Afghanistan been attended with reverses to our arms, the consequences might have been serious, as our hold would probably have been weakened upon British India generally; but as it has turned out, the present dearth of our rails is likely to prove the most serious obstacle in the way of a large consumption of them. It is worthy of notice that our railway iron shipments to Australia and New Zealand amounted in January this year to 2945 tons, a total much below the corresponding figures of January, 1879, which were 6559 tons. On the other hand, our railway iron exports to Brazil increased to 2338 tons during the past month.

TECHNOLOGICAL EXAMINATIONS.—The City and Guilds of London Institute for the Advancement of Technical Education have just issued a revised edition of the programme for their technological examinations to be held in May at different local centres throughout the country. Under this system any artisan can be examined, and if he passes obtain a certificate in subjects which include nearly all the principal industries of the country, the examinations being designed to test the knowledge possessed by workmen of the scientific principles of their business. Among the subjects appearing for the first time in the present edition are—mechanical engineering, treatment of ores, mine surveying, oils, and fuel, all of which are of paramount importance to many readers of the Mining Journal. Classes for instruction in the various subjects have been formed at most of the principal seats of industry in the kingdom, but candidates are not obliged to study in one of these classes before entering for examination. The only test required is that the candidate should pass in one of certain selected subjects of the science and art department examination. He can do this either before or after passing the technological examination. Copies of the programme can be had gratis (and free by post) on application at the halls of the Mercers', Clothworkers', or Drapers' Companies. Liberal prizes are offered in all the subjects of examination, as well as certificates in three grades.

MINING STATISTICS.—The usual tabulated statements for collecting the names and situations of mines, details as to the owners and officers, and a return of the nature, quantity, and value of the mineral produced, have just been issued by Mr. ROBERT HUNT, F.R.S., the Keeper of Mining Records at the Royal School of Mines, and it is stated that his volume of "The Mineral Statistics of the United Kingdom," has been regularly published by order of the Lords of the Treasury each year since 1848. By the friendly co-operation of all who are interested in our great mining industries a degree of exactness has been secured, which gives a high value to those returns, and it is pointed out that the returns made to Her Majesty's Inspectors of Metalliferous Mines (deposited by the direction of the Secretary of State in the Mining Record Office) give only the quantities of ore raised. As it is commercially important that the money value of the ores raised and the quantities of metal produced from them should be known, it is most desirable that all should co-operate by furnishing the details referring to their own mines, whilst the fact that their publication long after the expiration of the year to which they relate renders them comparatively worthless should be an inducement to return the circulars, properly filled up, as speedily as possible. The Mines Regulation Acts rendering compulsory a return during the present month of the quantities of mineral raised in 1879, the additional particulars asked for by Mr. Hunt could be furnished without five minutes extra trouble, so that it may be hoped that all concerned will render him this small though important assistance.

SOCIETY OF ENGINEERS.—The first ordinary meeting of the year of members was held on Monday, at their hall, Westminster Chambers, Victoria-street, under the presidency of Mr. R. P. Spice. The Chairman said, notwithstanding that the past year had been one of great depression, of great commercial and engineering difficulties, the society was able to produce a satisfactory balance-sheet. He presented premiums to Mr. Charles J. Alford for his paper on "The Mineralogy of Sardinia," and to Mr. H. P. Stephenson for his paper on "Wrought-iron Axles." On the motion of Mr. H. P. Stephenson, seconded by Mr. T. Porter, a cordial and unanimous vote of thanks was passed to Mr. Spice for his services as president during the last two years. The Chairman then introduced the newly-elected president, Mr. Joseph Bernays, who delivered an inaugural address. Referring to papers which had been read, he spoke of the need which existed for greater safety in railway travelling by the adoption of engineering precautions, stating that in 1878 alone in this country 1053 persons were killed and 4007 injured by railway accidents. Perfections had not, he proceeded to say, yet been reached in the laying of tramways, nor would it be attained until local authorities



treated the tramway and the road through which it passed as one indivisible whole, neither to be disturbed without affecting the other. A vote of thanks was passed to the president for his address.

#### GEOLOGICAL SOCIETY OF LONDON.

Feb. 4.—HENRY CLIFTON SORBY, LL.D., F.R.S. (President), in the chair. Frances Bond, M.A., Snowdon House, John-street, Hampstead; Charles Herbert Cobbold, San Valentino, Abruzzo Citeriore, Italy; Frank Crisp, LL.B., B.Sc., F.L.S., Lansdowne-road, Notting Hill; William Henry Dover, Myrtle Grove, Keswick; Mirza Mehdy Khan, Chudder Ghaut, Hyderabad, Deccan, India; John Notman, Parliament Buildings, Toronto, Ontario; and John Evelyn Williams, C.E., Boston, Lincolnshire, were elected Fellows of the Society.—John Ward, Lenoxvale, Belfast, was proposed as a Fellow; and Prof. F. von Hochstetter, of Vienna, and Prof. A. Renard, of Brussels, were proposed as Foreign Correspondents of the Society.—Joseph H. Cowan, Westminster Training College; William Alexander Forbes, B.A., Ashley-place; M. H. Gray, Kuching, Sarawak, Borneo; and Charles Thomas Whitwell, M.A., B.Sc. (Lond.), F.C.S., Havelock-street, Sheffield, will be balloted for as Fellows of the Society.

The following communication was read:—  
"On the Oligocene Strata of the Hampshire Basin," by Prof. John W. Judd, F.R.S., Sec.G.S.

The next meeting will be held on Feb. 25, when the following communications will be read:—1. "On the Geology of Anglesey," by Prof. T. McKenny Hughes, M.A., F.G.S.—2. "Notes on the Strata exposed in laying out the Oxford Sewage Farm at Sandford-on-Thames," by E. S. Cobbold, F.G.S.—3. "A Review and Description of the various Species of British Upper Silurian Fenestellidae," by G. W. Shrubsole.

#### COPPER MINING IN MID-DEVON.

By one of those strange and incomprehensible freaks of fashion or fancy it has happened that while the districts on the south, east, and west of the extensive outcrop of granite which forms the wild moors of Dartmoor have been successfully worked, and large quantities of mineral have been discovered, the extreme northern junction beds have until now been almost entirely neglected, although it is here that, had the disposition of mineral veins been better understood, it would have been long since proved that the greatest amount of copper ore would naturally be concentrated by the effect of the miles of Dartmoor granite.

A few years ago some explorations were made at a spot near Stickle-path, about three miles from Okehampton, and although these trials were of a weak and inefficient character, they proved conclusively the existence of a series of well-defined and parallel lodes, running east and west, dipping north away from the granite, and intersected by several north and south cross-courses.

An association was formed to work these lodes, and although their operations were so far successful that they raised and sold about 70000 lb. worth of rich ore, principally from a main lode over 100 ft. wide, yet the want of proper machinery, coupled with the depression under which all mining enterprises suffered at the time, caused the suspension of their operations from sheer inability to develop such a large undertaking without the requisite capital.

After some delay a company was formed under the title of the Mid-Devon Copper Mining Company (Limited), which purchased the Belstone, or Copper Hill, and the Taw River Mines for a very small sum, mostly payable in shares, and having at great expense erected new and powerful pumping and other machinery, they have lately set to work with energy to lay open and develop their extensive property. Not only are they pushing forward drivages in all directions to explore the lode at the 80 and other levels, but, confident in the success of their operations, the directors have ordered that both the main and the inclined shafts shall be sunk at once. The main shaft will intersect the lode at the 110, but it is also intended to cross-cut at 100 fms. to explore the lode at this point. The inclined shaft is on the lode, and while ventilating the levels will, doubtless, lead to good discoveries. There are 30 fms. of valuable backs from the 81 up to the 50, and these will be laid open for working by sinking this shaft.

Within the last fortnight a great improvement is reported in the lode in the 80 fm. drivages; rich branches and veins of yellow ore have been met with, and there is every appearance of the improvements continuing. The shares of the former company were dealt in at 31. each, which, with 28,000 shares, made 84,0000. as the selling value of the mine. The present company has new machinery, with a reserve of working capital, a rising market for copper, and we understand a greatly reduced royalty to pay—1-30th as against 1-18th; consequently, with so much in their favour, the 45,000 shares of the present company should command good prices. Even at 21. each they would only represent an equivalent value to those of the former company, and yet they are quoted at about a fourth of that price. Unless experienced miners, like the late Capt. James Richards, of the Devon Great Consols, and others, are very much at fault this company should soon take rank as one of the most successful and prosperous in the country.

**NEW KITTY (St. Agnes).**—We give the official appointments which have been made, and the result of an inspection by Capt. White, manager of Wheal Pevor. The management has been entrusted to Capt. Vivian, of West Kitty, and Mr. G. Coulter Hancock, of St. Agnes, has secured the appointment of purser. Messrs. Williams, Williams, and Grylls, Truro, in consequence of their application, have secured the banking account, and the offices of the company are the same as those of West Kitty—37, Walbrook. Capt. White's report goes into minute detail, and he describes the sett as of a considerable extent, and is evidently impressed with its value. He augurs very favourably from the results which were attained by previous workers when tin was at a much lower price than at present, and states that the Wheal Kitty lode runs through the entire length of the New Kitty property. The question of stratification is settled by the profits which the mine has given in the past. Capt. White calls attention to the fact of the contiguity of Wheal Kitty workings at a certain point, and is evidently of opinion that there are certain features of great interest likely most materially to increase the market value of the mine; indeed, he characterises the prospect as more than ordinary in their operations towards Wheal Kitty, and he expressly states that "large deposits of tin will be most assuredly met with." Copies of this interesting and important report have been forwarded to the shareholders, and cannot but tend to give them the greatest confidence with regard to the future of the mine. Under these circumstances it is not surprising that all the company's shares are taken, and that they should be in demand on the Stock Exchange. The works at the mine are, of course, in active operation. The mine is held under lease (21 years) from His Grace the Duke of Buckingham and Mr. J. S. Enys. Further particulars will be forthcoming. In the meantime these must be highly satisfactory.

**WEST KITTY (St. Agnes).**—We have been officially informed that the slip of ground between West Kitty and Wheal Kitty has been secured by West Kitty, and that the draft lease reached the London office on the 4th. This strip of ground is known to be a most valuable addition, and it is alleged that probably it adds to the value of West Kitty Mine to the extent of at least 400000. or 500000. The extraordinary richness of the ground in this district is such as to render it very difficult in the present state of the tin market to obtain any ground adjoining Wheal Kitty to the west, and the gentlemen composing West Kitty committee have through their persistent endeavours succeeded in obtaining this invaluable addition to their property.

**BELOWDA (Roche).**—In sinking an underlay shaft here a most important discovery has been made. About 3 fms. from surface the miners struck a lode, which has proved to be the celebrated "Webb's Lode." The miners have driven about 13 ft. into the lode, and have no signs whatever of the other wall. The lode is rich for tin throughout. The further the miners drive into the lode the richer the work. Two other lodes form a junction with this lode, about 4 fms. from the present discovery. This old and celebrated lode was known to be in the sett, but not in so close a proximity to the engine-house and stamps. A deep adit about 30 fms. from the surface passes near

the discovery, so that a cross-cut can be easily driven to cut the lode at that depth. An old miner, by the name of Anthony Tellam, some few years since advised the opening up of this lode. The tinstuff can be got to the stamps for a few pence per ton. Great excitement prevails in the neighbourhood of the mine; the miners at the mine are also immensely pleased at the prospect they now have for employment, and are working with great vigour.

#### REPORT FROM CORNWALL.

Feb. 13.—There is nothing worthy of special notice this week in the condition of the mining market beyond the fact that there has been no little uncertainty and some amount of uneasiness. To those who took the over sanguine, not to say inflated, view of the prospects of the tin standards, which we have again and again questioned, no doubt the present position of affairs must prove unwelcome. There is nothing in it, however, to alarm or disconcert the legitimate investor, who knows that the best thing for mining and for himself is a fair steady price for produce, and not such a sensational one as will expose the mining interest, to the operations of the mere speculator. Our view of the case is what it has been all along—that so far as tin is concerned the standards have advanced somewhat more rapidly than trade has revived, and that something in the way of a lull was inevitable until the one came up to the other. This is so natural an explanation of the present attitude of affairs that it is needless to look further. Least of all is it necessary to adopt the gloomy view which has been put forward in certain quarters, with a plausible array of figures to back it, that the recent advances are practically unjustified. To say so is sheer nonsense, if not something else. We are not sanguine, indeed, that tin will attain a much higher permanent figure than that at which it at present stands, nor do we regard it as at all desirable that it should. As things are we shall have quite increased enough supply from home without enlarging the foreign element. One purpose these uncertainties and fluctuations do serve—they enable the wide-awake to utilise their advantages at the expense of the incautious.

Clearly the event of the week has been the meeting in Wheal Pevor and its wonderful dividend—it is little less than 17. 12s. 6d. When Pevor was in its infancy, and a calling mine, we noticed it as a concern which was conducted in such a way as made it an excellent example of what a cost-book mine ought to be—all the accounts clear and straightforward, and brought up to the latest moment, and as worked in a manner to make it yield its riches to the best advantage. All our readers know how Wheal Pevor justified the high expectations formed of it by entering the Dividend List when the depression was at its deepest. Now we have it yielding a profit in four months of 4916%, something like 45 per cent. on the total receipts for that period of 10,7390. No wonder that the adventurers expressed their gratitude to Mr. T. Pryor and Mr. F. W. Michell, the purser and engineer, by voting them 10000. for it is no secret that it is owing to their pluck and energy that Wheal Pevor has now any existence, and that it has supplied such a lesson of the capacity of Cornish mining.

The employment of boring machines is making slower progress in the county than we like to see, and so far as Devon is concerned we believe their use is up to the present time absolutely unknown. This ought not to be, even when full allowance is made for the special difficulties which exist in certain cases. Economy in all legitimate directions is quite as much a necessity as ever—the absolutely unproductive needs to be kept down to the minimum still, although standards have gone up. Wages will, and ought to, rise; the price of materials have advanced, and will advance, and mine managers and committees must do their best to meet this in any available way if adventurers generally are to derive the greatest advantage from the improvement. It would be a thousand pities if any of the ground were last gained in the direction of economical working under the pinch of sharp necessity.

Pennoll Smelting Works are likely to do a large trade—a thing, indeed, only to be expected when Captain Teague's connection with them is taken into account. The rails of the Redruth and Chacewater Railway are now carried direct into the works, which are only about half an hour's run by this means from Redruth, and, therefore, very conveniently situated.

The Perran Iron Mines are again fairly at work, and have made their first shipment of ores. Sanguine hopes are entertained that the time for the profitable realisation of this immense deposit, chiefly of spathose iron, has at length arrived. Hitherto the existence of these mines has been a very chequered one.

#### REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Feb. 12.—The colliery owners are scarcely meeting with so large a demand as a week or two back, and in respect of house coal the competition from Nottingham and Derbyshire is severe. These districts are sending in supplies at 2s. per ton under Cannock Chase prices. The demand for coke is large, and agents are firm in their rates, which is causing buyers to hold off. For Welsh samples 20s. per ton is demanded into trucks at the ovens, and for Derbyshire sorts 21s. into trucks. At the gatherings of the members of the iron trade to-day and yesterday pig-iron was hardly so strong as a fortnight since in actual sales, though open market quotations remain unchanged: 47. 15s. is asked for native all mine pigs and 37. 5s. for cinder pigs. Derbyshire and similar qualities were quoted at 37. 15s. Production is still increasing. Arrangements are being made for blowing in a second furnace at the Herbert's Park Works, Darlaston. The first furnace was blown in a short time back. Finished iron is without much alteration; the works mostly keep fully on, but occasionally specifications are found to be less ready than is desirable. Sheets, singles, remain at 117. 10s. to 117. 5s., best bars are 97., and medium bars 87. to 87. 10s.

The directors of the iron making concern of John Bagnall and Sons (Limited) report a profit of 40540. on the past half-year's working; from this sum 18490. is to be deducted for debenture loan interest, leaving the net profit at 22040. The Capponfield Furnaces have been let, and the Gold's Hill Furnaces have been re-lighted for the company's own use. There is no dividend, as the profit will go towards the reduction of losses incurred in previous years.

The arbitrators under the South Staffordshire Mines Drainage Acts have now issued their proposal for the alteration in the boundaries of the Bilston and Tipton districts. The proposal is that nearly the whole of the Bilston district should be annexed to Tipton, leaving the town of Walsall and east of it to form the new Bilston district. The proposed dividing line between the two districts is pretty much the junction of the coal measures with the Silurians near Walsall, as shown on the Ordnance Survey. It may roughly be described as nearly the course of the South Staffordshire Railway from Wednesbury to Walsall. It rests with the Commissioners, at a meeting which is called for early in March, to accept or reject this proposed alteration. If it should be accepted then water which now flows from the Bilston district into the Tipton Mines will be raised at a less depth, and consequently at a lower cost, than at present, and the burden of the operations will be shared by the Bilston colliery owners instead of falling wholly upon those in the Tipton district.

The Willenhall magistrates were occupied nearly the whole of Monday last in hearing a charge of breaking the Mines Regulation Act, preferred against Mr. Michael Harle, the certificated manager of No. 4 pit at Short Heath, of the Pelsall Coal and Iron Company. It was alleged that owing to the defendant's carelessness an explosion occurred on Nov. 12, by which six men were killed. Mr. W. B. Scott, Assistant Government Inspector of Mines, stated that 93 yards from the surface there was a scaffold from which the men worked two headings, and below the scaffold there was a sump 47 yards deep, which contained 37 yards of water. The shaft was ventilated by 9½ in. air-pipes, but the pipes were not carried to within 9 ft. of the scaffold. The sump where it was alleged the accumulation of gas took place was not ventilated at all, and he did not think that 9½ in. air-pipes were sufficient to carry air for six men. The Bench imposed a fine of 2000. and costs.

**THE LEYCETT COLLIERY EXPLOSION.**—With reference to the decision of the Newcastle magistrates, last week, it is understood that

Mr. Robert Stevenson, the former manager of the colliery, intends to apply for a Government enquiry, before an assessor and other qualified mining engineers, as to the method adopted by him in opening out the pit in which the disaster occurred.

**SALE OF THE CYCLOPS IRONWORKS, WALSALL.**—These works, situate at the Pleck, Walsall, and which have been closed since the death of the late Mr. E. Russell, have just been sold to Mr. Walter Jones, acting as the agent of undivulged purchasers. The price is 778000.—600000. for the works, and 178000. for duplicate rolls. The vendor's solicitors are Messrs. Duignan and Co., Walsall.

#### TRADE OF THE TYNE AND WEAR.

Feb. 12.—The tone of the Coal Trade has been stronger during the past week. In South Durham all the collieries are kept fully going, and as the demand for coke increases ovens are to be erected at many works. Two hundred new ovens are to be erected at the Binchester Colliery, and at the Thrislington Colliery all the ovens, which have been out some time, are to be lighted as soon as possible. There is little change to report in connection with the steam coal trade. Most of the works are fairly employed. Some important gas contracts have been closed lately. The Riga Gas Company have made a contract for 10,000 tons, and the Moscow Gas Company have contracted for 80,000 tons, to be supplied from the Pelton Colliery. Large contracts have been made for best steam coal at 10s. per ton, but the leading collieries refuse to do more business at that rate. They now quote 11s. per ton at the pit.

The sinking of the second shaft at the Whitburn new winning by the Caudron system of boring is progressing satisfactorily; of course some time must elapse before this important winning can be developed so far as the working of coal is concerned. The owners are in the meantime working a large quantity of limestone from the beds there and selling it to advantage. As a consequence of the demand for coals and coke the wages of miners and others are being raised at many works, so as to bring them up to the county average. At Tudhoe Grange Collieries this has been done, and also at Trimdon Colliery and other places.

The Iron Trade continues very firm, and prices still have a tendency to rise; there has been some slight alarms lately, and rumours of a reaction; but here we can see no substantial grounds for these rumours. The demand for America and the Continent is unabated, or rather it increases, and prices are likely to advance instead of recede. The reduction of stocks in Cleveland which took place in January is, of course, an encouraging feature, especially as there was an increased make in December. The reduction amounted to upwards of 8000 tons. Quotations vary somewhat; No. 3 is about 61s. 6d. for present delivery. The West Hartlepool Ironworks are to be sold in March. Messrs. Bolekow and Vaughan are erecting new Bessemer converters at the Eston Steelworks on an improved principle. Other extensions are also in progress, the total cost of which will amount to about 150,0000. It is evident that the great ironmasters on the Tees have the fullest confidence in the success of the Cleveland steel. The Erismus Works on the Tees are being converted into steelworks, the Darlington Iron Company are also progressing steadily with the erection of Bessemer steel plant, and steel plates will soon be produced here. Most of the engine and iron works in the district are well supplied with orders, and at some of them overtime work has been commenced. At the Extension Works of the North-Eastern Railway Company in Gateshead a large increase in the number of workmen has been made, and there is much activity in all branches. The already extensive engine-works of Black, Hawthorn, and Co., are to be further extended. There is much activity at most of the iron shipbuilding yards, but these operations are much retarded owing to the want of plates, which cannot be supplied in time by the ironmasters. On the north side of the Tyne most of the great works are well supplied with orders. Messrs. R. and W. Hawthorn are busily engaged with heavy work, and this is the rule at most of the works. Forges on the Tyne, as a rule, are also well employed, and there is a great demand for pig-iron from all parts of the river. The tram-car engines of Messrs. Hawthorn, Newcastle, and Messrs. Black, Hawthorn, of Gateshead, have been worked on the Newcastle Tramways during the past week, and, although some mishaps have occurred, there is no doubt that ultimately these engines will prove to be a success. In Cumberland and the West Coast the demand for iron ore is well sustained, and is increasing; consequent on this, and the present value of this hematite ore, the enquiry for royalties producing this ore is considerable, and several properties are in the market, and many of them will probably be disposed of shortly.

**PROPOSED MINING PROFESSORSHIP FOR NEWCASTLE.**—At a meeting of the Northern Mining Institute, in Newcastle, on Saturday, the President, Mr. Greenwell, in the chair, the President brought forward the subject of the appointment of a mining lecturer to the Institute. It appeared to him that there were two classes of persons connected with collieries. For one class—the young—there was already provided scientific instruction, but to the other class, such as overmen, &c., engaged in mining, instruction such as the professors in the college were able to give at stated periods would be most valuable. It was stated that it was the intention of the College of Physical Science to appoint a mining professor. Until it is seen what is done by the College of Physical Science the matter will not be further proceeded with by the Mining Institute.

#### REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

Feb. 12.—The slate shippers and loaders at Carnarvon have a real grievance. The sewage of the town discharges into the harbour, and every tide brings it up the narrow harbour, to the great annoyance of everyone employed there. The Harbour Commissioners have complained to the Town Council, but so far without any beneficial result.

Referring again to the slate quarries in Nantlle, the inconveniences which the proprietors suffer, and which the proposed drainage scheme is intended to remedy, are threefold—1. The flooding and overflow of the Lower Nantlle Lake into the quarries Dorothea, Talsarn, &c., is causing interruption in their working.—2. The absence of water-power in most of the quarries, and the consequent need of steam-engines for pumping.—3. The very limited extent of tip room and the yearly increasing difficulty of depositing the slate debris so as to avoid its falling back into the quarries. The last difficulty is enhanced by the fact that a good deal of the ground about the present tips contains slate-rock, while for ordinary land for tipping about 3000. per acre is paid. The remedies proposed by the Drainage scheme are also threefold—1. The widening, deepening, and strengthening of the River Llyfni from its outlet near the Lower Lake down to the bridge carrying the turnpike road from Carnarvon to Portmadoc, by which the flow of water in the river will be accelerated.—2. The sinking of a shaft to a depth of about 400 ft. at some point near the Lower Lake, and the pumping of the water from this shaft through a line of pipes to the sea by hydraulic or other power. Tunnels could be driven from this central pumping station so as to come underneath each quarry, draining its present lowest floor and allowing for further development in depth.—3. The construction of a Tramway (2 ft. gauge) from a point on the south side of the Lower Lake to the sea shore for the conveyance of slate rubbish, with branches where practicable (by arrangement with the owners) into the quarries on the south side of the valley for the conveyance of their slates to the London and North-Western Railway. Such is an outline of this scheme, which if carried out must materially benefit the owners of slate quarries in this valley.

There is some force in the remarks of "A Shareholder" in last week's Journal relative to the alteration of the name of West Tankerville Mine into that of East Roman Gravels. I pointed out the unwisdom of this change when it was made. But is not "Shareholder" wrong in supposing that the chief lodes of Roman Gravels mine run into the East Roman Gravels sett? Are not the lodes of the latter distinct lodes, only parallel on the north to those of the Roman Gravels Mine itself?

An interesting account of the Van Mine was read last autumn by Dr. Le Neve Foster before the Cornwall Mining Institute, and it is



now published separately, whether for private circulation only I can not say. But it is a clear and interesting account, and as far as the description of the modes of working the wide lode of that mine are concerned the information is new, and of much practical value. Dr. Foster intimates that shortly a descriptive account of the dressing machinery employed at the mine will be published. I hope this is so. The two sons of the late Mr. Williams could hardly pay a more fitting tribute to their father's memory than to do this. Good and promising as is the late discovery at Mona Mine, I fear it is not so good as the geology of "A Small Shareholder" would make out. The owners may well be content to be satisfied with something less than a great body of native copper once forced in a state of fusion into the sides of the mountain, and now waiting to be approached and dug out by rock-boring machinery.

**MYNYDD GORDDU.**—This company has been reconstructed under the title of the Mynydd Gorrdu Lead Mine Company (Limited), returning to what is, it appears, the correct spelling of the name. The nominal capital has been reduced from its original amount of 65,000l. to 40,000l., of which latter the sum of 10,000l. (all of which, within a few hundreds, has been already subscribed by the shareholders in the old company) still remains to be called up, sufficient not only to pay off every liability of the mine, including the debentures (which will now be entirely extinguished), but also to provide a handsome surplus for further development, if such should be needed. This necessity, however, hardly appears likely to arise as the mine—which is fully equipped with an admirably laid out plant, and is undoubtedly developing into a splendid property—has for some time past been self-supporting, and, indeed, had it not been for the recent severe and long continued frost would have enabled the declaration of an interim dividend at the expiration of the first quarter of the new regime. Locally, and we believed we may also add in the London mining circle, Mynydd Gorrdu has always been looked upon as one of the coming mines, and we welcome, therefore, its reappearance on the market, where, owing to the regularity of its lead sales, the high price its ore fetches, and the miner-like way in which it has been developed throughout, we doubt not it will soon assume a prominent position. The accounts from the mine, as will be seen from the manager's report, are most satisfactory. A sale of 20 tons of lead was made on Dec. 24 last at 16l. 0s. 6d. per ton. Another 20 tons were sold again on Jan. 26, and a further 20 tons are to be sampled within the next few days, and now that the serious interruptions from the frost are not likely to again recur, the sales will be larger in future.

**EAST CREBOR** (from a Tavistock correspondent).—Operations here are progressing in the most satisfactory manner, and several persons from London have visited the property this week. The report last Tuesday (inspecting day) on Crebor was better than any yet received. An important copper lode has been cut on West Devon Consols, and considerable attention is directed to this property, which will be vigorously worked. Holders of shares down here will not sell them at anything like the current quotations, some persons stating most confidently they will go to 10l. per share.

**PATENT DISTRIBUTORS.**—This afternoon, in the Guildhall Yard, Messrs. R. Hornsby and Sons, of Grantham, exhibited one of their Patent Distributor machines to the members of the Street Committee of the Commissioner of Sewers for the City. The inventors propose to obviate the serious inconvenience experienced in rainy or frosty weather, when streets become positively dangerous, by effecting an even and economical distribution of salt or sand on the roadway. The performance of the machine in the Guildhall Yard was watched with considerable interest and care by the Chairman and other members of the committee, who expressed themselves satisfied with the result. The machine is very simple in construction, and occupies but little space. The feed is within the immediate control of the driver, and can be so regulated as to spread the sand, salt, or other material used as thinly or as thickly as may be thought desirable as fast as a horse can walk.

**FOR SALE, A FIRST-CLASS SECOND-HAND 80 in. CORNISH PUMPING ENGINE, with several 11 ton BOILERS.**  
Apply, WM. BENNETTS, Roskear, Camborne.

**IMPORTANT TO INVESTORS.**  
A GREAT DISCOVERY OF TIN, COPPER, AND SILVER has been made in the FORTESCUE NATIVE TIN, COPPER, SILVER, AND ARSENIC COMPANY (LIMITED), near St. Austell. The shares have risen from 20s. to 30s. in a few days, and they must go much higher, and pay large dividends. From analysis the lode is worth £214 per fathom for 200 fms. already opened on, and the reserves are equal to £684,000, and the capital employed is only £7000. This would appear to be the richest lode in Cornwall. The shares are by far the cheapest in all the markets.  
Full particulars and shares may be obtained from the Western Mining Exchange, 14, Old Town-street, Plymouth.

**THE GREAT DISCOVERY OF TIN AND COPPER IN CORNWALL.**—The lode in FORTESCUE (STANNAGWYN) MINE COMPANY continues to hold good, with every indication of improvement. The undersigned will give every information to shareholders and intending investors, of the exact position and prospects of the mine, and will quote as low a price as possible for the shares when for sale.  
Address, THOMPSON and SON, Secretaries and Managers, 14, Old Town Street, Plymouth.

**FORTUNATE SPECULATION—SYNDICATE—PROBABLE FORTUNE FOR THE OUTLAY OF £10** (Instances have occurred where, with far less brilliant prospects, £1 has realised £1000) connected with the promotion of a new and valuable Chemical Invention and Enterprise for the Economical and Very Profitable Treatment of the Low-Class Silver Ores which abound in Mexico, Peru, Chili, and the New World, more especially the silver mines of Leadville, Colorado, where 2 tons of solid silver are now being daily returned from the higher class ores, and statistics prove that for each ton of rich ore averaging 100 ozs., concentrated by the costly method of smelting, with coals at 45s. per ton, more than 20 tons of poor ore, assaying 15 ozs. silver per ton, are thrown aside as valueless. The process will act equally as well upon the rich as the poorer ores. It is proposed to form a Syndicate of £1000 to practically prove the value of the process at Leadville, upon a small scale of 10 tons per day, when capital to any required extent will be forthcoming, both upon the spot and in England, for erecting extensive works, securing mineral grants, and promoting mining companies generally. The invention can also be leased to mine owners upon royalty. No money whatever is now asked, but merely subscriptions for £1000 invited, and when obtained a meeting of subscribers will be held, the amount collected, and definite arrangements decided upon.  
Detailed convincing particulars of "Inventor," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

**MESSRS. TONKIN BROTHERS,**  
MINING AGENTS, SURVEYORS, AND ASSAYERS,  
STANHOPE, DURHAM.

#### MINES INSPECTED AND REPORTED ON.

Date.	Mines.	LEAD ORES.	Purchasers.
Feb. 6—Miners	25	13 6	Walker, Parker, and Co.
— ditto	25	13 6	ditto
— ditto	70	13 6	ditto
— ditto	25	13 5 0	ditto
— ditto	8	13 10 6	ditto
10—Foxdale	100	15 13 0	Panther Lead Co.
12—Berlanga	250	13 13 0	—
12—Talarogh	—	—	—
— Maesyrwaddu	35	13 7 6	Adam Eytton.
— Coddia Llys	15	14 0 6	Walker, Parker, and Co.
— North Hendre	50	12 18 6	ditto
— ditto	50	12 18 6	ditto
— Prince Patrick	45	13 7 6	ditto
— ditto	5	14 5 0	Adam Eytton.
— Gwernymynydd	50	13 1 6	Walker, Parker, and Co.
— Rhydalun	20	12 14 6	Adam Eytton.
— True Blue	15	12 13 0	Walker, Parker, and Co.
— Pant-y-Mwyn	25	12 12 0	Rumorm Smelting Co.
— Boma-y-Gravels	100	12 0 6	Walker, Parker, and Co.
— ditto	100	13 0 6	Sheldin, Bush, and Co.
— Tankerville	80	12 15 6	ditto

**HORNACHOS (Silver-Lead).**—This company sold on Feb. 5, to Messrs. Nevill, Druce, and Co., 18 tons 14 cwt. 3 qrs., realising 435l. 16s. 7d.

Date.	Mines.	BLLENDE.	Purchasers.
Feb. 6—Miners	54	5 1 6	Villiers Spelter Co.
— ditto	37	5 19 0	Vivian and Sons.
— ditto	76	5 18 0	Kenrick and Son.
— ditto	21	5 0 6	ditto
— ditto	26	5 0 6	Richardson and Co.
Feb. 11—Talarogh	225	5 10 0	Vivian and Sons.
— ditto	75	5 10 6	Tindale Spelter Co.

#### TO COLLIERY MANAGERS AND MINING ENGINEERS.

**THE WIGAN COAL AND IRON COMPANY (LIMITED)** are in WANT of a MINING ENGINEER, competent to TAKE CHARGE of extensive COLLIERY WORKINGS as a Certified Manager. Applicants will not be eligible unless they have already had the responsible charge of Colliery Workings, and are capable of undertaking all the duties appertaining to such a post.  
Apply (by letter only), stating age, experience, and salary required, with copy of testimonials, to Mr. HEWLETT, Managing Director, Wigan Coal and Iron Company (Limited), Wigan.

**WANTED, a 24 or 25-in. cylinder ROTARY ENGINE, with about a 10-ton Cornish BOILER—one with a Winding Cage and a Crusher, with (say) 24-in. rolls, preferred.**  
Apply to F. R. WILSON, 30, Finsbury-circus, London, E.C.

**WANTED, a PAIR of 20 in. AIR COMPRESSORS, 4 ft. to 4 ft. 6 in. stroke, both steam cylinders and air cylinders to be same size.**  
Specification, with price, delivered at Wrexham, to be addressed to H. DESNIS, Ruabon.

#### REDUCTION OFFICER.

**WANTED, TO PROCEED TO CENTRAL AMERICA, a person acquainted with the TREATMENT of AUERIFORM ORES.** Must have had at least two or three years' experience on a Gold Mine.  
Copies of testimonials only to be addressed to "C." care of Messrs. G. Street and Co., 30, Cornhill, E.C.

**WANTED, by an EXPERIENCED MINING ENGINEER, a SITUATION in the above capacity.** Acquainted with Metallurgy and Civil Engineering, with the French, German, and Italian languages. Has already resided ten years in hot climates. Age 32. Open to inspect and report on foreign properties. Satisfactory references.  
Address, "F. L." MINING JOURNAL Office, 26, Fleet-street, London, E.C.

#### SILVER-LEAD MINE.

**THE OWNERS of a very promising SILVER-LEAD MINE in DERBYSHIRE, having expended upwards of £1600 in developing the same, are prepared either to DISPOSE OF IT, or to meet with capitalists to JOIN IN WORKING IT.**  
Apply to M. J. DENNEY, Esq., Church Walk, Ulverston; or to view, Mr. RICHARD DUNN, Flagg, near Buxton.

**NANT RHYS SYNDICATE (LIMITED).**—A company established to work the VALUABLE LEAD PROPERTY adjoining the celebrated Gwynystwyn Mine. Work is now progressing upon one of the champion lodes.  
A FEW MORE SHARES ONLY WILL BE ISSUED AT PAR.  
OFFICES: 35, QUEEN VICTORIA STREET, E.C.

#### THE FRONTINO AND BOLIVIA (SOUTH AMERICAN) GOLD MINING COMPANY (LIMITED).

Notice is hereby given, that a SPECIAL GENERAL MEETING of the Shareholders of this company will be HELD at 184, Gresham House Old Broad-street, in the City of London, on TUESDAY, the 2nd day of March next, at Two P.M., for the purpose of confirming the subjoined Resolution, which was unanimously passed at a Special Meeting of the Shareholders held on the 12th day of February, 1880.

By order of the Board,  
J. JAMESON TRURAN, Secretary.  
184, Gresham House, Old Broad-street, London, E.C.,  
27th January, 1880.

COPY OF RESOLUTION.  
"That the capital of the company be increased by the creation of 5000 Shares of the company of £2 each, of which not more than 2750 be issued without the sanction of a General Meeting of shareholders, the 2750 shares to be issued to the shareholders *pro rata* at 15s. premium."

#### NEW WHEEL PEEVOR,

IN 3000 SHARES, ON THE COST-BOOK SYSTEM.

(Under the same management as Wheel Peevor and West Wheel Peevor.)

This mine is situate in the parish of Redruth, and immediately west of West Wheel Peevor. It has been clearly ascertained that the rich lodes of Wheel Peevor, after traversing the West Wheel Peevor sett, run on and extend through the centre of the New Wheel Peevor.

The length of New Wheel Peevor is about 350 fathoms, affording ample scope for extensive operations. The lodes known to exist in the sett are the north lode, the middle lode, the south lode, and the 5 feet lode. The middle lode and the south lode are at present highly productive in Wheel Peevor, and all the lodes, from the 26 to the 80, are in good tin ground.

It is also satisfactory to know that the present bottom level in Wheel Peevor is one of the most productive levels in that mine, which speaks well for the permanency of the whole group of mines now being worked on the Wheel Peevor lodes. The Killas in New Wheel Peevor is identical with that of its richer neighbours, and there is every reason to believe that profitable results will attend the working of the mine.

The funds in hand are sufficient to carry on operations for at least eight or nine months, and in the meantime the shares are likely to advance considerably in market value.

The present price is £2 3/4 to 3/4.  
WHEEL PEEVOR, in 3000 shares, is one of the best dividend mines in Cornwall. The last four months' working has resulted in a dividend, paid this week, of £1 12s. 6d. per share, a credit balance of over £1000 being carried forward to next account, and, with the present price of tin, a larger profit will be shown at the next meeting (see last report). The present market price of the shares is £32 to £34 ex div.

WEST WHEEL PEEVOR, in 3000 shares, is one of the best progressive mines in Cornwall, and may be expected shortly to enter the Dividend List. The present market price of the shares is £10 to £11.

NEW WHEEL PEEVOR will, in all probability, prove as great a success as its neighbours, and is confidently recommended as an investment of no ordinary character.

Application for shares (of which only a limited number are for sale) should be made at once to—  
Mr. W. H. BUMPUS, Stock Broker and Mining Share Dealer,  
44, Threadneedle-street, London, E.C.

#### THE RASHLEIGH TIN AND COPPER MINES,

ST. BLAZEY, CORNWALL.

IN 12,000 SHARES.

The company's concession is situate about midway between Fowey Consols and Wheal Eliza. The first netted some £350,000 profits on £6500 capital, while the latter, stretching westward, is the unquestionable prize of modern tin mining, making profits of over 40 per cent. annually, and commanding a market value of some 500 per cent. premium.

The area of the company's property is most extensive, it is traversed by some 15 to 20 mineral-producing lodes, which from discoveries already made, and evidences presented of increased products in depth, the future is removed from the category of ordinary speculation—risks being reduced to a minimum, and the chances of more than average success established almost to a certainty.

It is important to notice that the position of the sett is within the range of the north and south parallel, or magnetic currents, wherein ancient tin mines, these have netted gains of £1,000,000 sterling, on an aggregate capital not exceeding £30,000. Early yield not only meeting cost, but providing funds for the purchase and erection of costly and extended fields of machinery and plant.

The immediate operations contemplated are to sink Coleman's engine-shaft to the 100 fathom level, which can rapidly be accomplished by the aid of the boring machinery now so generally adopted and approved of by practical experts and mining authorities. This operation will intersect and prove the value at various depths (of some fifteen lodes), all of which are highly mineralised, where intersected at the shallow old level. From their general characteristics all promise increased yield in depth.

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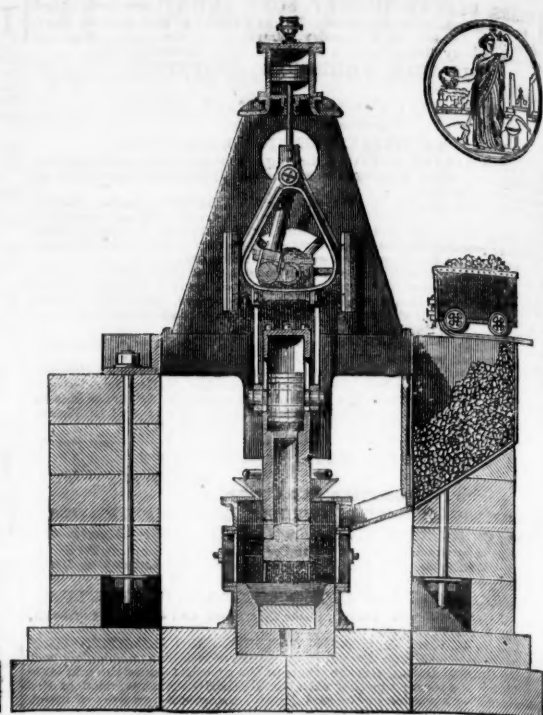
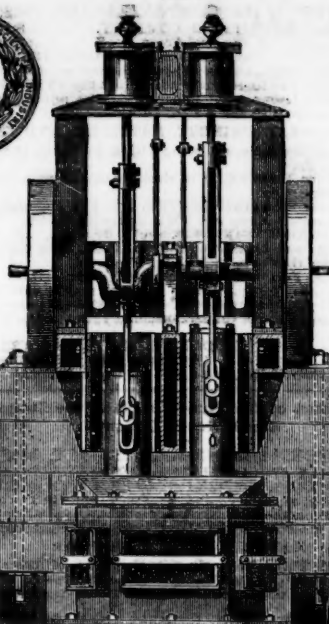
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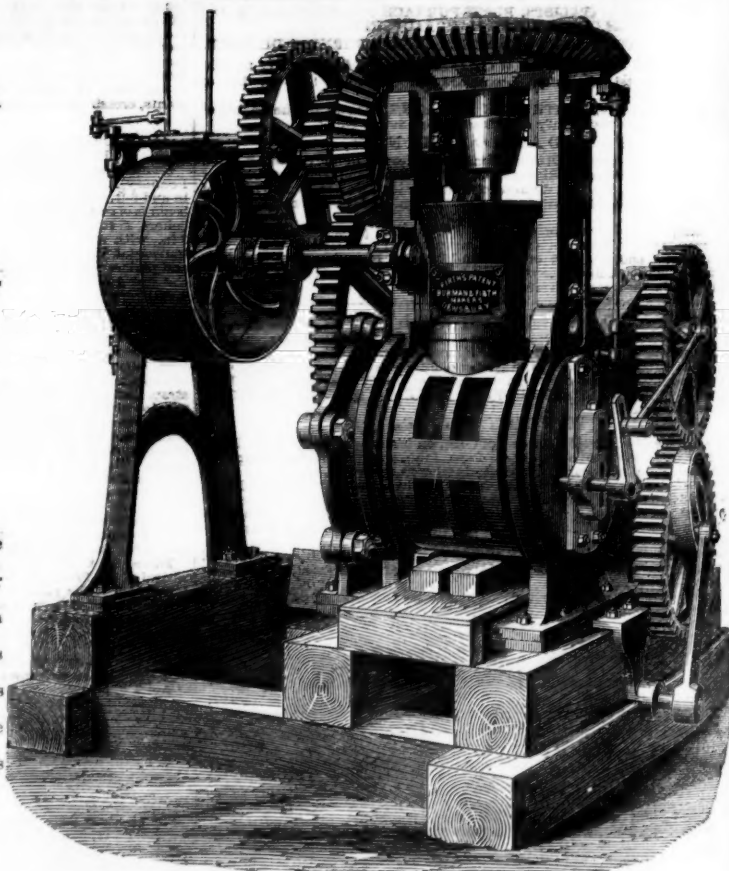
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## THE MINING SHARE LIST.

## BRITISH DIVIDEND MINES.

Shares.	Prind.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
10000 Caron, i, Cardigan*	2 0	0	2 1/2	0 4	0 0	0 0
10000 Carn Brea, c, i, Illogan†	56 7	6	105	97 1/2	100	0 0
10240 Devon Gr. Consols, c, a, Tavistock*	1 0	0	19	17 1/2	18 1/2	0 0
4296 Dolcoath, c, t, Camborne	10 14	10	75	67 1/2	10	0 0
6400 East Pool, t, c, Illogan	0 9	9	38	35	37	0 0
40000 Glasg. Car., c, [30000 sh. £1 pd., 10000 15s. pd.]	1 1/2	1 1/2	1 1/2	0 13	10	0 0
8500 Gorseid and Merlyn Con., i, Flint.	2 10	0	2 1/2	2 1/2	0 0	0 0
15000 Great Laxey, i, Isle of Man*	4 0	0	20	19 20	0 0	0 0
8400 Green Hurl, i, Durham*	0 6	0	8 1/2	8 1/2	0 0	0 0
20000 Groswinlow, i, Cardigan*	2 0	0	4	3 1/2	4	0 0
2600 Isle of Man, i, Isle of Man*	25 0	0	—	—	—	0 0
20000 Leadhills, i, Lanarkshire	8 0	0	—	—	—	0 0
400 Lisburne, i, Cardiganshire	18 15	0	35	30 35	100	0 0
10000 Mellanear, c, Hayle*	2 0	0	6 1/2	6 1/2	0 0	0 0
9000 Minera Mining Co., i, Wrexham*	5 0	0	12	11 12	0 0	0 0
20000 Mining Co. of Ireland, c, i, i	1 0	0	—	—	—	0 0
882 North Bury, t, c, Chacewater	1 10	0	—	—	—	0 0
11823 North Hendre, i, Wales	2 10	0	6 1/2	1 1 1/2	0 0	0 0
8063 Ditto	1 0	0	2	0 4	0 0	0 0
6000 Pennant, i, bar, North Wales*	5 0	0	3	2 1/2	3	0 0
18000 Prince Patrick, s, i, Holywell	1 0	0	3	2 1/2	3	0 0
12000 Ditto, pref. (8000 sh. issued)	0 10	0	—	—	—	0 0
10000 Red Rock, s, i, Cardigan	2 0	0	2 1/2	2 1/2	0 0	0 0
12000 Roman Gravel, i, Salop*	7 10	0	12 1/2	11 1/2	0 0	0 0
512 South Cardon, c, St. Cleer†	1 5	0	155	140 160	746	0 0
6123 South Condurrow, t, c, Camborne†	0 5	0	14	12 13	0 0	0 0
9000 South Darren, i, Cardigan*	1 10	0	3 1/2	3 1/2	0 0	0 0
4500 South Wheel Franchise, i, Illogan†	7 12	4	17	15 1/2	18	0 0
12000 Tankerville, i, Salop*	0 0	0	—	—	—	0 0
5000 Tincroft, c, i, Pool, Illogan†	11 10	0	28	25 28	50	0 0
15000 Van, i, Llanidloes†	4 5	0	23	21	2	0 0
3000 West Chiverton, i, Parnassus†	19 15	0	2 1/2	1 1/2	2 1/2	0 0
512 West Tolgus, c, Redruth	85 10	0	70	72 1/2	75	0 0
600 West Walsley, c, St. Austell	18 0	0	70	70 75	446	0 0
1024 Wheel Eliza Consols, i, St. Austell	18 0	0	—	—	—	0 0
3000 Wheel Peavor, i, Redruth	7 11	0	38	33 1/2	34 1/2	0 0

## FOREIGN DIVIDEND MINES.

Shares.	Prind.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
35500 Alamillos, i, Spain†	2 0	0	1 1/2	1 1/2	1 1/2	0 0
30000 Almaden and Tinto Consol., s†	1 0	0	1	0 6	3	0 0
20000 Australian, c, South Australia†	7 7	6	1 1/2	1 1/2	1 1/2	0 0
20000 Cape Copper Mining, s† South Africa	7 0	0	41	38 41	36	0 0
10000 Cesena Sulph. Co., Romagna, Italy†	10 0	0	—	—	—	0 0
10000 Copiapo, c, Chile† (420 shares)	17 0	0	15	16 17	7 11	0 0
23500 Eberhardt and Aurora, s, Nevada†	10 0	0	5 1/2	4 1/2	5 1/2	0 0
70000 English & Australian, s† c, S. Aust.	2 10	0	2 1/2	2 1/2	2 1/2	0 0
25000 Fortuna, i, Spain†	2 0	0	6	5 1/2	6	0 0
55000 Pontgibaud, s, i, France†	2 0	0	3 1/2	3 1/2	4	0 0
15000 Linars, i, Spain†	3 0	0	6 1/2	5 1/2	6 1/2	0 0
10000 Pontgibaud, s, i, France†	20 0	0	22	20 22	27	0 0
1000000 Port Phillip, c, Clunes† (42 shares)	1 0	0	7 1/2	7 1/2	12	0 0
54000 Richmond Consol., s, Nevada†	5 0	0	14	13 1/2	8 4	0 0
40000 Santa Barbara, s, Brazil	0 10	0	2 1/2	2 1/2	0 8	0 0
120000 Scottish-Australian Mining Co.†	1 0	0	2 1/2	2 1/2	15	0 0
80000 Ditto, New	0 10	0	1 1/2	1 1/2	15	0 0
32000 Sentein, s, i, bi, Arège, France	1 0	0	—	—	2	0 0
22500 Sierra Buttes, c, California†	2 0	0	1 1/2	1 1/2	2	0 0
40625 Ditto, Plumas Eureka	2 0	0	2 1/2	2 1/2	2 7	0 0
225000 St. John del Rey† (45 Stock and multiples dealt in)	260 270	—	—	—	12 1/2	0 0
20000 Tolima, s, c, Colombia	5 0	0	—	—	0 19	0 0
25000 Victoria (London), c, Australia	1 0	0	—	—	0 13	0 0
2100 W. Prussian (5500 pref. sh. £10 pd.)	10 0	0	10 1/2	10 10 1/2	2 2	0 0

\* Have made calls since last dividend was paid.

## NON-DIVIDEND BRITISH MINES.

Shares.	Prind.	Last wk.	Clos. pr.
25600 Aberllyn, i, bi, Carnarvon	1 0	0	1 1/2
12000 Assheton, i, Carnarvonshire*	5 0	0	1 1/2
11583 Bedford Unit., s, c, Tavis (21 liab.)	0 4	0	—
30000 Bettws-y-Coed, s, i (20000 sh. issued)	1 0	0	1 1/2
8000 Blaen Oaelan, i, Cardigan	3 0	0	2 1/2
3939 Blue Hills, c, St. Agnes	4 8	6	5
30000 Bodlirys, i, bi, Denbighshire	1 0	0	1 1/2
800 Botallack, i, c, St. Just†	1 5	0	100
10000 British, s, i, Wrexham	2 0	0	2 1/2
258 Brownrigg, c, St. Neot	0 10	0	—
20000 Bwch United, s, i (21 sh.) Cardigan	0 12	6	3 1/2
50000 Cambrian, s, i, c, Cardiganshire	2 0	0	2 1/2
20000 Carnarvon, c, Carnarvonshire	1 0	0	1 1/2
20000 Cen. Foxdale, i, i, of Man (22 sh.)	1 5	0	—
5120 Clementina, i, Llanrwst*	1 0	0	1 1/2
12000 Coed Mawr Pool, s, i, Carnarvon	2 0	0	—
7500 Connelack, s, i, Wexham	2 0	0	—
8000 Combmartin, s, i, North Devon	0 8	8	3 1/2
2150 Cook's Kitchen, i, Illogan†	28 4	9	8
10000 Cornwall Great Consols, Callington	4 0	0	7
84 4 Crook Burn, i, Cumberland	0 5	0	—
14000 Crosswood Mining Lands, i, Carnarvon	1 0	0	1 1/2
15000 Cwm Dyfford, c, s, i, Carnarvon	1 0	0	1 1/2
12000 Daresbury Consols, i, bi, Carnarvon	1 0	0	—
1024 Daresbury Mountain, i, bi, Llanrwst	20 0	0	40
20000 Denbighshire Consolidated, s, i	3 0	0	3 1/2
12000 Derwent, s, i, Durham	4 0	0	4 1/2
10000 Dobby Syke, i, Durham*	0 17	6	3 1/2
6144 East Caradon, c, St. Cleer†	3 4	6	5 1/2
4000 East Chiverton, i, Parnassus†	9 10	3	3 1/2
3000 East Craven Moor, i, Pateley Bdg.	10 0	0	9
12000 East Crebor, c, Tavistock	0 1	0	1 1/2
3200 East Darren, s, i, Cardiganshire	22 0	0	—
3000 East Florida, s, i, Cardiganshire	1 0	0	1 1/2
8000 East Goginan, i, Cardigan	2 0	0	—
10000 East Longstone, s, i, Llanrwst	1 0	0	1 1/2
21000 East Roman Gravel, s, i, Salop	0 10	0	—
18000 East Van, i, Llanidloes†	5 0	0	2 1/2
4098 East Wheel Buller, t, c, Gwynnapp	0 10	0	1 1/2
10000 East Wheel Lovell, t, Helston	10 8	6	3 1/2
30000 Flintshire Great Consols*	5 0	0	1 1/2
8000 Florence, s, i, bi, St. Ives	5 0	0	—
10000 Fortescue, s, i, St. Stephens	1 0	0	1 1/2
12500 Frongoch, s, i, Cardigan (11000 sh. iss.)	2 0	0	5 1/2
3950 Gawton, c, Tavistock	4 9	6	2 1/2
14000 Glenroy, s, i, Isle of Man	4 0	0	1 1/2
20000 Great Dyfford, s, i, Montgomery	1 0	0	1 1/2
20000 Gt. E. Foxdale, i, i, of Man (21 sh.)	0 18	0	—
12000 Great Holway, i, i, Flintshire	5 0	0	4 5
6000 Great Wh. Eleanor, i, North Bovey	1 17	0	7 1/2
20000 Griffin, s, i, Carnarvon	1 0	0	—
9880 Gunnislake (Clitters), t, c, i	5 5	0	5 1/2
10000 Gwyn-y-Mynydd, s, i, Flintshire	4 0	0	5 1/2
10000 Harehope Gill, s, i, Durham (21 sh.)	0 5	0	—
12000 Hartington Moor, s, i, Derby	1 1	0	2 1/2
8400 Harwood, s, i, Durham	0 15	0	2 1/2
3000 Herodfoot, i, near Skarfed	1 0	0	4 1/2
8000 Hingston Down, c, Calstock†	0 7	0	1 1/2
8000 Killfret, t, Chacewater	2 12	6	1 1/2
30000 Lady Ashburton, s, i, Callington	1 0	0	—
12000 Ladywell, s, i, Salop (12000 pref. also)	2 10	0	3 1/2
5000 Lead Era, i, Mold	2 10	0	—
2500 Levant, c, St. Just	10 14	6	—
15000 Llandegla, s, i, Llanarmon	1 0	0	—
8000 Llanawel, i, Wales	5 0	0	—
5120 Lovell, t, Wendron	0 16	0	1 1/2
30000 Llanrwst, i, Carnarvon	2 0	0	1 1/2
7500 Ditto, 10 per cent. pref.	2 0	0	2 1/2
9000 Marke Valley, c, Linkinhorne†	5 8	6	3 1/2
1800 Mawton, s, i, South Wales	1 0	0	2 1/2
6000 Medlyn Moor, t, Wendron	3 15	10	—
28000 Mineral Corporation of Gt. Britain†	10 0	13	1 1/2
30000 Mona, s, c, Angles	5 0	15	13 1/2
10000 Mynydd Goredau, i, Cardigan	3 0	0	3 1/2
12000 Morfa Du, s, c, Angles	1 0	0	1 1/2
6144 Mount Carbis, t, c, Redruth	0 10	0	1 1/2
25000 Nant-y-Ronen, s, i, Cardigan	1 0	0	—
4678 New Bronfloyd, s, i, Cardigan (25 sh.)	3 16	0	—
12000 New Cathedral, s, c, i, Gwynnapp	1 0	0	1 1/2
2400 New Cook's Kitchen, t, Illogan	7 0	0	7 1/2
3000 New Cwmtythwal, s, i, Cardigan	1 0	0	—
8000 New Dolcoath, t, Camborne	3 0	0	1 1/2
6000 New Kitty, t, St. Agnes	0 6	0	1 1/2

## NON-DIVIDEND MINES—continued.

continued.

Shares.	Prind.	Last wk.	Clos. pr.
10000 New Llanfair, <i>i</i> , Carnarthen	1 0	0	1 1/2
3000 New Wheel Peavor, <i>t</i> , Redruth	0 10	0	—
10000 Newton, <i>s</i> , Calstock	1 0	0	—
3500 New Throct, <i>s</i> , <i>i</i> , Lelant	6 0	0	1 1/2
10000 New Wye Valley, <i>i</i> , Montgomery*	3 0	0	—
5000 North Alfred Consols, <i>c</i> , Phillack	0 2	0	—
10000 N. D. Eresby Mount, <i>s</i> , <i>i</i> , Carnarv.	1 0	0	—
2000 North Levant, <i>t</i> , <i>c</i> , St. Just†	13 6	0	—
50000 North Molton, <i>s</i> , <i>c</i> , <i>mn</i> , <i>i</i> , Devon	1 0	0	—
6000 North Penstruthal, <i>t</i> , <i>c</i> , Gwynnapp	0 10	0	—
2936 North Trekerby, <i>c</i> , St. Agnes	8 17	10	—
12000 Pandora, <i>s</i> , <i>i</i> , Carnarvon	2 0	0	—
30000 Pant-y-Mwyn, <i>i</i> , Mold	2 0	0	—
6000 Park Valley, <i>s</i> , <i>i</i> , North Devon	0 4	0	—
6000 Parnacombe, <i>s</i> , <i>i</i> , Devon	0 5	0	—
45000 Parry Corporation, <i>s</i> , <i>c</i> , Angles	1 0	0	—
7500 Pateley Bridge, <i>i</i> , Yorkshire	1 0	0	—
15000 Ditto (also 7500 sh. not issued)	0 17	0	—
12000 Pen-yr-Orsedd, <i>s</i> , <i>i</i> , Flintshire	1 0	0	—
5000 Penhalls, <i>t</i> , <i>c</i> , St. Agnes†	3 17	6	—
15000 Perran Consols, <i>s</i> , <i>i</i> , Perranzabuloe	1 0	0	—
12000 Phenix, & W. Phenix, <i>t</i> , <i>c</i> , Link. s.	5 10	3	—
80 Phas Ddu and Park, <i>s</i> , <i>i</i> , Wales	0 3	0	—
7000 Pictou, <i>s</i> , <i>i</i> , Holywell, fully paid	1 0	0	—
6000 Plympton Mining and Arsenic*	1 0	0	—
12000 Plympton, <i>i</i> , Llanidloes†	2 0	0	—
10000 Polrose, <i>t</i> , Cornwall	0 10	0	—
10000 Port Nigel, <i>s</i> , <i>i</i> , Carnarvonshire	2 0	0	—
2000 Prideaux Wood, <i>t</i> , Llanvilly	5 0	0	—
12000 Prince of Wales, <i>c</i> , <i>s</i> , Calstock	0 7	6	—
12000 Rashleigh, <i>t</i> , <i>c</i> , St. Blazey	0 5	0	—
50000 So. Cambrian, <i>s</i> , <i>i</i> , Cardiganshire	1 0	0	—
30000 South of Eresby Mountain, <i>i</i>	12 0	0	—
512 South Dolcoath, <i>c</i> , <i>t</i> , Redruth	2 10	0	—
6000 South Penstruthal, <i>t</i> , <i>c</i> , Gwynnapp	9 10	0	—
6000 South Roskear, <i>t</i> , <i>c</i> , Camborne	8 5	0	—
6000 South Tolarne, <i>t</i> , <i>c</i> , Camborne	3 14	0	—
4000 South Wheel Crebor*, <i>c</i> , Tavistock	1 0	0	—
2943 South Wheel Croft, <i>c</i> , Illogan	16 7	0	—
8000 St. Lawrence, Amal, <i>i</i> , Flintshire†	2 0	0	—
13000 St. Patrick, <i>t</i> , Halkin, Holywell*	1 0	0	—
30000 Talybont, <i>s</i> , <i>i</i> , Cardiganshire	1 0	0	—
40000 Tamar, <i>s</i> , <i>i</i> , Bessalston*	1 0	0	—
6400 Teesdale, <i>i</i> , Durham (pref.)	1 0	0	—
10000 Temple, <i>i</i> , Cardigan*	1 0	0	—
5000 Treleigh Wood, <i>t</i> , Redruth	6 1	0	—
12000 Trethellian, <i>s</i> , <i>i</i> , Cranstock*	2 0	0	—
4000 Truro, <i>s</i> , <i>i</i> , Nerequis, Flintshire	10 0	0	—
5000 Tyn-y-Fron, <i>s</i> , <i>i</i> , Cardigan	2 0	0	—
10000 Van Cons. and Glyn, <i>s</i> , <i>i</i> , Llanidloes†	1 0	0	—
1000 Van Gogin, <i>s</i> , <i>i</i> , Cardiganshire	10 0	0	—
18000 Victor, <i>s</i> , <i>i</i> , Flintshire (21 share)	0 5	0	—
10000 West Assheton, <i>i</i> , Carnarvon	1 0	0	—
6000 West Basset, <i>c</i> , Illogan†	7 0	4	—
3000 W. Craven Moor, <i>i</i> , Pateley Bridge*	10 0	0	—
12000 West Goginan, <i>s</i> , <i>i</i> , Cardiganshire	2 0	0	—
12000 West Holway, <i>i</i> , Flintshire	1 0	0	—
6000 West Killy, <i>t</i> , St. Agnes	1 0	0	—
3000 West Mary Ann, <i>t</i> , Menheniot	1 0	0	—
3000 Westminster United, Llanarmon	5 0	0	—
20000 West Pateley Bridge, <i>s</i> , Yorkshire, <i>i</i>	1 0	0	—
1783 West Policies, St. Day†	11 0	0	—
10000 Wt. Roskear, <i>t</i> , <i>s</i> , <i>i</i> , <i>bi</i> , <i>c</i> , Camborne	5 10	0	—
2948 West Wheel Franchise, <i>t</i> , Illogan†	29 6	3	—
3000 West Wheel Peavor, <i>t</i> , Redruth	1 5	0	—
12000 West Wye Valley, <i>i</i> , Montgomery*	1 5	0	—
6000 Wheel Agar, <i>c</i> , Illogan†	13 15	0	—
6144 Wheel Basset, <i>c</i> , Illogan†	34 2	0	—
2585 W. Comford, & No. Tres., <i>c</i> , Gwynnapp	2 2	0	—
6000 Wheel Crebor, <i>c</i> , Tavistock	4 8	0	—
6000 Wheel Grenville, <i>t</i> , Camborne	4 15	9	—
12000 Wheel Jewell, <i>c</i> , St. Day	0 10	0	—
2948 Wheel Jones, <i>t</i> , Kes†	6 13	10	—
4295 Wheel Kitty, <i>t</i> , St. Agnes	5 6	7	—
2000 Wheel Owles, <i>t</i> , St. Just†	7 1	3	—
12000 Wheel Russell, <i>c</i> , Tavistock	2 1	0	—
6000 Wheel Sisters, <i>c</i> , Lelant	2 15	0	—
4096 Wheel Untv, <i>t</i> , <i>c</i> , Redruth	15 6	0	—
3000 White Cliff, <i>s</i> , <i>i</i> , Llanrwst	5 0	0	—
24000 Ystwith, <i>s</i> , <i>i</i> , Cardigan	1 0	0	—